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The
Official Year Book
of
New South Wales.
1916.



J. B. TRIVETT.

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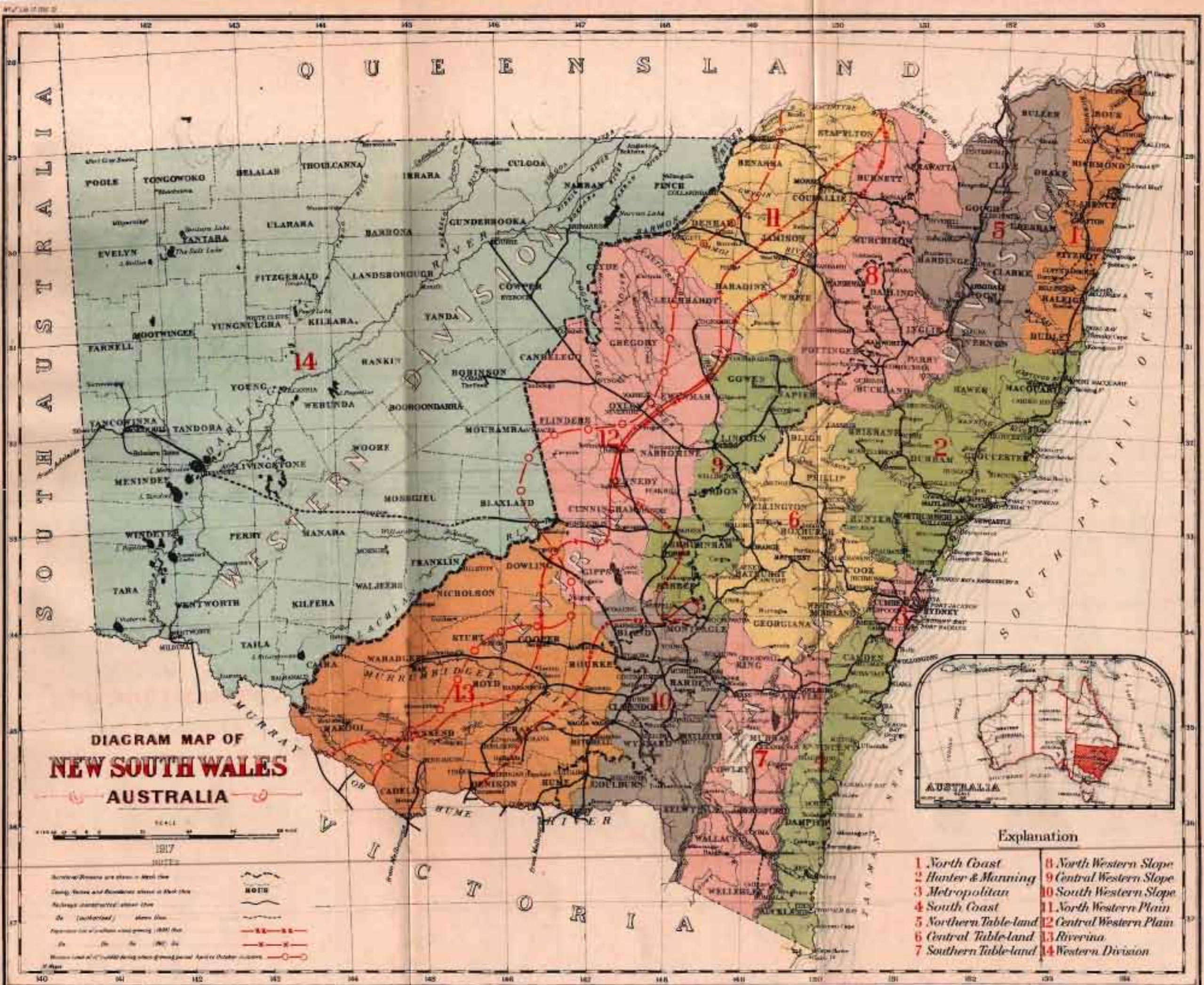
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THE
OFFICIAL YEAR BOOK
OF
NEW SOUTH WALES.
1916.



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GOVERNMENT STATISTICIAN.

PUBLISHED BY AUTHORITY OF THE GOVERNMENT OF
NEW SOUTH WALES.

W. A. GULLICK, GOVERNMENT PRINTER.

1917.

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PREFACE.

THE contents of the Official Year Book of New South Wales have been published already in the form of periodic chapters, which have been issued, as they became available from the printer, in order to render them of immediate service to the public.

As in previous years, the text includes the latest information concerning all the activities of the State, together with full notes as to changes in legislation. Consequently the legislator, the student, or the ordinary reader, will have at his disposal the most recent records relating to the State on all matters of public interest.

Much extra work has devolved upon this Bureau on account of the Great War in which New South Wales as part of the British Empire is involved. Although deprived of their services, I am pleased to record that twelve members of the Bureau are serving in the Australian Imperial Forces.

I have to express my thanks to the responsible officers of the various State and Commonwealth Departments, and to others who have kindly supplied all desired information, often at considerable trouble.

A diagram map of New South Wales is published with the volume to show the railways, county and territorial divisions, and area of the State suitable for profitable cultivation of wheat.

The "Statistical Register of New South Wales" is published annually from this Bureau; and as it contains in very full detail the results of the collected and compiled statistics of the State, it will prove of great service if studied in conjunction with this Year Book.

JOHN B. TRIVETT,

Bureau of Statistics,

Government Statistician.

Sydney, 1st December, 1917.

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GEOGRAPHY AND CLIMATE.

GEOGRAPHY.

AREA OF NEW SOUTH WALES.

THE area of New South Wales, including Lord Howe Island and the Federal Capital Territory, is estimated at 310,372 square miles, or 198,638,080 acres, representing rather more than one-tenth of the total area of the Commonwealth of Australia. There was a formal surrender to the Commonwealth Government, on 1st January, 1911, of about 900 square miles at Yass-Canberra as Federal Capital Territory, and in addition, an area of about 28 square miles at Jervis Bay was surrendered to the Federal Government for naval purposes.

The length of the State, measuring directly from Point Danger on the north to Cape Howe on the south, is 683 miles. From east to west, along the 29th parallel, the breadth is 756 miles, while diagonally from the south-west corner, where the River Murray passes into South Australia, to Point Danger, the distance is 850 miles.

Lord Howe Island, the dependency of New South Wales, is 7 miles in length, by a width ranging from half-a-mile to $1\frac{1}{4}$ miles, and has an area of 5 square miles.

The area of New South Wales in relation to the total area of the Commonwealth is shown in the following statement :—

State or Territory.	Area.	Per cent. of total area.
	sq. miles.	
New South Wales, including Lord Howe Island.	309,444	10·40
Victoria	87,884	2·96
Queensland	670,500	22·54
South Australia	380,070	12·78
Western Australia	975,920	32·81
Tasmania	26,215	·88
Northern Territory	523,620	17·60
Federal Capital Territory	900*	} ·03
„ Area at Jervis Bay	28	
Total Commonwealth	2,974,581	100·00

* Approximate.

New South Wales is three and a half times as large as Victoria, nearly twelve times as large as Tasmania, and somewhat smaller than South Australia; related to the larger States, it is half the size of Queensland and one-third that of Western Australia.

AREA OF THE BRITISH EMPIRE.

For purposes of comparison the areas of all portions of the British Empire are given in the subjoined statement:—

Country.	Area.	Country.	Area.
	sq. miles.		sq. miles.
Europe—		Africa— <i>continued.</i>	
United Kingdom—		West Africa— <i>continued.</i>	
England and Wales ...	58,340	Sierra Leone and Protectorate...	31,000
Scotland	30,405	Gambia and Protectorate...	4,500
Ireland	32,586	Total, West Africa ...	451,815
Isle of Man and Channel Islands.	302		
Total, United Kingdom ...	121,633	Mauritius and Dependencies...	809
		Seychelles	156
Gibraltar	2	Somaliland	68,000
Malta	117	East Africa Protectorate ...	246,800
Asia—		Uganda Protectorate ...	109,119
India—British	1,093,074	Zanzibar and Pemba ...	1,020
Feudatory States	709,555	Nyasaland	39,315
Total, India	1,802,629	Rhodesia	438,575
		Swaziland	6,536
Cyprus	3,584	Basutoland	11,716
Aden (including Perim and Protectorate), Socotra.	10,387	Bechuanaland	275,000
Ceylon... ..	25,332	Egypt... ..	350,000
Straits Settlements	1,600	Anglo-Egyptian Soudan ...	985,000
Federated Malay States ...	27,506	America—	
Other Malay States	24,970	Canada	3,729,665
Borneo	31,106	Newfoundland	42,734
Brunei... ..	4,000	Labrador	120,000
Sarawak	42,000	British Honduras	8,598
Hong Kong and New Territories.	301	British Guiana	89,500
Wei-hai-wei	285	Bermuda	19
Africa—		West Indies—	
Union of South Africa—		Bahamas	4,404
Cape of Good Hope ...	273,995	Turks and Caicos Islands...	224
Natal	55,290	Jamaica	4,207
Transvaal	110,426	Cayman Islands	89
Orange Free State	50,389	Barbados	166
Total Union of South Africa.	473,100	Windward Islands... ..	527
		Leeward Islands	715
Ascension	34	Trinidad and Tobago ...	1,868
St. Helena	47	Total, West Indies ...	12,200
West Africa—		Falkland Islands	7,500
Northern Nigeria	256,200	Australia and the Pacific—	
Southern Nigeria and Protectorate.	79,880	Australia	2,974,581
Gold Coast and Protectorate.	80,235	Papua	90,540
		Norfolk Island	10
		New Zealand	104,751
		Fiji	7,435
		Tonga	390
		Solomon Islands	14,800
		Gilbert Islands	187
		Total, British Empire ...	12,755,494

BOUNDARIES OF NEW SOUTH WALES.

New South Wales lies in the temperate zone, and almost entirely between the 29th and 36th parallels of south latitude and the 141st and 154th meridians of east longitude; the southern boundary dips from the 34th parallel on

the west to the 37th parallel on the east. The State is bordered on the north, west, and south respectively by the States of Queensland, South Australia, and Victoria, and on the east by the South Pacific Ocean. The total length of coast line is 700 miles, representing 1 mile of coast to 443 square miles of its area, as against an average of 1 in 261 for the continent of Australia. New South Wales has, of all the Australian States, excepting the Northern Territory, the greatest proportion of territory to coast line.

TRIGONOMETRICAL SURVEY.

Numerous stations have been erected in the State in connection with the trigonometrical survey. Two base lines have been measured, one situated near Lake George, and the other near Richmond. They are $5\frac{1}{2}$ and 7 miles in length respectively. A third base line, some 20 miles in length, has been selected on the railway line, about 40 miles south-east of the town of Bourke, and the triangulation has been extended in that direction.

A list of the trigonometrical stations situated at a height of 3,000 feet or more was given in a previous issue of this Year Book.

GEOGRAPHICAL FEATURES.

In a previous issue of this Year Book an account was given of the important geographical features of New South Wales; in this issue only a brief reference is made.

Capes and Headlands.

The coast of New South Wales is remarkably regular, and does not present any striking topographical features. It consists of rugged cliffs, alternating with sandy beaches and wide river estuaries. Few capes project more than a few hundred yards into the sea.

Harbours and Inlets.

The numerous inlets of the coast of New South Wales are remarkable for complexity of outline. There are some fine natural harbours, with deep water and steep rocky shores, whose existence proceeded from the subsidence in past ages of the coastline, which caused the submergence of the valleys of coastal rivers and converted them into spacious harbours. Numerous small ports, estuaries, and roadsteads provide shelter to shipping, and afford facilities for trade. The entrances to the estuaries are usually obstructed by sand bars, formed by the combined action of ocean currents and waves and wind. Efforts are made to control the sand movement by the construction of breakwaters and training walls. Ocean jetties have been constructed at most of the roadsteads.

The principal ports are Port Jackson, the port of Sydney; Port Hunter, or Newcastle Harbour; Jervis Bay; Port Stephens; Broken Bay; and Port Kembla.

Islands.

There are a number of islands along the coast of New South Wales; the majority are situated close to the mainland to which they were formerly attached, and are too small to be of much value. Generally, they are of granitic, schistic, basaltic, porphyritic, or doleritic formation, with meagre vegetation, and practically no timber.

Lord Howe Island.

Lord Howe Island is a dependency of New South Wales and included in the King division of Sydney electorate; it is situated about 300 miles east of Port Macquarie, and 436 miles north-east from Sydney, in latitude $31^{\circ} 33' 4''$ S., longitude $159^{\circ} 4' 26''$ E. It was discovered in 1788 by Lieutenant Ball, of H.M.S. "Supply," whilst on his way from Port Jackson to found a settlement at Norfolk Island. The island is of volcanic origin, and Mount Gower, the highest point, is a volcanic ridge reaching a height of 2,840 feet above sea level. The climate is equable, and the rich soil and abundant rainfall are favourable for the growth of subtropical products; but on account of the rocky formation of the greater part of the surface of 3,220 acres, only about 300 acres are suitable for cultivation. The vegetation of Lord Howe Island is luxuriant, palms and banyans being the most remarkable of the varied flora. The land has not been alienated, but is occupied rent free on sufferance, and utilised for the production of *Kentia* palm seed. A Board of Control manages the affairs of the island and supervises the palm seed industry. The population is 107 persons.

The Surface of New South Wales.

The surface of New South Wales is divided naturally into three main divisions—the Coast District, the Tablelands, and the Western Plains. The tablelands occupy the summit of the Great Dividing Range, which traverses the State from north to south and marks the division between the coast district and the plains.

The coastal strip is undulating and well watered. The average width is about 30 miles; at Clifton the tableland abuts on the ocean, and the widest part (150 miles) is in the valley of the Hunter River, where the relatively soft rocks of the coal basin have offered least obstruction to river erosion. The Great Coal Basin (extending from Port Stephens to Jervis Bay) underlies the central portion of the coastal region; the seam emerges to the surface at Newcastle and Bulli, and at Sydney lies about 3,000 feet below the surface. Coal seams are found in the Clarence River district, but for the most part the northern and southern sections of the coast district are devoted to dairy farming and the cultivation of such crops as maize, lucerne, and in the extreme north, sugar-cane; the forests yield a great variety of valuable timbers.

There are two tablelands—the northern and southern—comprising an extensive plateau region, furrowed in many parts by deep, rugged valleys. Generally they present on the eastern side a steep escarpment towards the ocean, while on the west they slope gradually towards the plains. The tablelands vary in width from 30 to 100 miles. The northern tableland commences in Queensland and terminates on the northern side of the Peel River Valley; its average height is 2,500 feet. The southern tableland extends from the Victorian border, and slopes gradually to the Cudgegong and Colo Rivers; its average height is slightly less than the northern tableland, although the Kosciusko Plateau, the most elevated portion of the State, is within its limits. Level upland plains occur throughout the tableland division.

The Great Plain district stretches from the base of the tablelands to the western boundary of the State. The plains are not quite horizontal, but slope very gently from the bed of the Darling eastward towards the Great

Dividing Range and westward towards the South Australian border. Only a few trifling elevations occur, and the plains are for the most part devoid of timber.

The plains are watered by the rivers of the Murray-Darling system; the Darling and its tributaries are liable to considerable shrinkage in periods of dry weather, but, on the other hand, in wet seasons, these streams overflow their banks and flood the surrounding country for miles, rendering it extremely fertile.

The surface of the plains consists of rich red and black soils, the former being particularly rich in plant food. The black soil formations represent the silted-up channels of old rivers which, when flooded, spread a fertile silt over the surrounding district. The black soil plains occupy large areas along the middle courses of the Castlereagh, Namoi, and Gwydir Rivers.

Mountains.

The mountains of New South Wales may be classified in three groups—the Great Dividing Range, the coastal ranges, and the ranges of the interior.

The Great Dividing Range is the name given to the section within New South Wales of a continuous chain of mountains stretching along the whole eastern portion of Australia. The Great Dividing Range has the form of a broad plateau rising steeply from the coastal plain on the east, and sloping gently towards the plains on the west. Except for a horseshoe bend skirting the valley of the Hunter River, it runs for the most part parallel to the coastline, and a number of lateral spurs branch off from either side.

A disconnected chain of mountains runs transversely along the Southern Tableland, and four well-defined ranges lie in the coastal district, running, as a rule, parallel to the Tablelands.

Two ranges of moderate elevation lie near the extreme west and north-west of the State, and form the western boundary of a vast depression through which the Darling River and its tributaries flow.

Extinct Volcanoes.

New South Wales does not lie within the zone of active volcanoes and earthquakes, though numerous indications are to be found of violent volcanic activity and earthquake disturbances in former ages.

The Kiama basalt or blue metal, used largely for making roads and for ballasting railway lines, is a solidified lava ejected during the Permo-Carboniferous period. At Nobby's, Newcastle, and at many places in the neighbourhood of Sydney, extensive volcanic dykes occur. The basaltic cappings of the hills, and great sheets of basalt found on the tablelands and the slopes of the Great Dividing Range are also relics of extinct volcanoes. The fertility of the soil in many parts, and some of the most striking features of the scenery of New South Wales are the result of former volcanic action, while the flow of basic lava along old watercourses has preserved the alluvial gold from subsequent distribution.

The earthquakes now experienced in New South Wales are infrequent and barely perceptible, but evidence of past movements—uplifts and depressions, folds and fractures—is found in many districts throughout the State.

Rivers.

The Great Dividing Range is the main watershed of New South Wales, and divides the rivers into two groups—the coastal and the western.

The coastal rivers discharge into the Pacific, and, on account of the proximity of the mountains to the ocean, the majority are short, rapid streams; the Hunter and the Hawkesbury by reason of their winding courses are the longest. Generally, the rivers south of Sydney, where the coastal strip narrows considerably, are of less importance than those of the north.

The physical aspect of the eastern rivers is somewhat similar, their upper courses are amidst broken and mountainous country, and the lower basins consist of undulating land with rich alluvial flats; where uncultivated, the land is densely timbered.

The rivers of the western slope belong to one great system—the Murray-Darling. They drain an immense area, including the whole of the western portion of New South Wales and large portions of Queensland and Victoria, and discharge into the sea through a single mouth. In consequence of the gradual slope of the plain country, these rivers, unlike the coastal, are long and slow in discharge.

Lakes.

The lakes of New South Wales may be classified in four groups:—The coastal lakes or lagoons, those of the tablelands, of the Western Plains, and the lakes and tarns of the Kosciusko Plateau.

The coastal lakes are partly estuarine and partly marine, and are generally due to the formation of bars and banks of river silt and the joint action of tides and winds; many of them are connected with the sea by narrow channels.

The lakes of the Tableland owe their origin to volcanic and other geological disturbances of former ages; with few exceptions they are situated in the southern tableland.

The lakes of the Western Plains occur usually along the courses of the western rivers; they are natural depressions which are filled during floods by the overflow of the rivers.

The Kosciusko Lakes are due to the formation of barriers of moraine material left behind by glaciers. They are situated about 6,000 feet above sea-level.

Mineral Springs.

Mineral springs of varied composition are found in many parts of the State; in some cases the waters have been marketed as table-waters, and some are of medicinal value.

A description of the waters of the following springs was given in a previous issue of this Year Book—Mittagong, Ballimore, Rock Flat, Bungonia, Jarvisville, and Yarrangobilly.

Limestone Caves.

The limestone caves of New South Wales constitute important tourist resorts, and are discussed in the section dealing with tourist attractions. The principal caves are Jenolan, Yarrangobilly, Wombeyan, Abercrombie, Wellington, Belubula, and Bungonia.

Geological Formation.

The sedimentary rock formations found in New South Wales are classified as follows :—

CAINOZOIC.	Post-Tertiary ...	Recent; auriferous and stanniferous soils, and alluvial deposits in the beds of existing rivers.
		Pleistocene; alluvial leads containing gold, tin, and gem-stones.
	Tertiary ...	Pliocene; alluvial leads, frequently covered by basalt, and containing gold, tin, and gem-stones.
		Miocene; quartzites with plant remains at Dalton, near Gunning.
MESOZOIC.	Cretaceous ...	Eocene; marine limestones and calcareous sandstones of the Lower Darling; plant beds of the New England district.
		Upper Cretaceous (Desert Sandstone); contains deposits of precious opal.
	Jurassic ...	Middle Cretaceous; auriferous alluvial leads at Mount Brown.
		Lower Cretaceous; Rolling Downs formation of Queensland.
	Trias-Jura ...	Talbragar fish-bearing shales.
		The Ipswich Coal Measures and the Clarence Coal Measures
PALÆOZOIC.	Permo-Carboniferous ...	Form the base of the artesian water-bearing basin. These Measures contain thin coal-seams, not at present worked in New South Wales.
		Hawkesbury Series ...
		Wianamatta Shales; contain fireclays.
		Hawkesbury Sandstones; building stone.
		Narrabeen Shales.
		1. Upper or Newcastle Coal Measures ...
	Carboniferous ...	2. Dempsey Series ...
		3. Middle or Tomago Coal Measures ...
		4. Upper Marine Series ...
		5. Greta Coal Measures ...
		6. Lower Marine Series ...
		Rhacopteris Beds and Associated Marine Beds ...
	Devonian ...	Marine beds of Dungog and Clarence Town areas, and New England District, equivalent in part to the Star Beds of Queensland. ...
		Upper Devonian ...
		Lower Devonian ...
		Limestones and slates at Yass, Molong, Wellington, Quindong, Portland, &c. ...
	Silurian ...	Slates and Tuffs at Mandurama, Cadia, Tomingley, Berridale, and in the counties of Auckland and Wellesley, on the Victorian border, Talwong, Tallong, Chatsbury, and in the Monaro-Albury district.
		Ordovician ...
	Cambrian ...	Limestones, schists, and glacial beds of Torrowangee.

Post-Tertiary and Tertiary deposits cover approximately one-third of the area of New South Wales, embracing practically the valleys of the western river systems, except for a broad belt of pre-Silurian, Silurian, and Devonian rocks between the Bogan River and the Barrier Range. Tertiary and Post-Tertiary fluviatile deposits constitute the chief sources of alluvial gold, stream tin, and gem-stones. The Cretaceous formation was the source of supply of the first artesian water struck. Lower Cretaceous rocks occupy

the greater part of the basin of the Upper Darling and its tributaries, overlying a considerable area of Trias-Jura water-bearing formation. The Upper Cretaceous formation is opal-bearing, rich deposits being worked at White Cliffs and Lightning Ridge. Rocks of Jurassic age are limited in occurrence to the locality of Gulgong. Triassic and Trias-Jura rocks extend over a large part of the coastal district, the Trias-Jura having a great development as conglomerates, sandstones, and shales in the Clarence River District. Wianamatta shales, Hawkesbury sandstone, and Narrabeen shales, constitute the Hawkesbury series of Triassic age. The Hawkesbury sandstone overlies the Narrabeen shales, and extends from Sydney on all sides for some 70 miles embracing practically the whole Hawkesbury River Valley. This formation extends also continuously from Sydney to the head of the Goulburn River, and has an important development in the Macquarie and Castlereagh River basins. The Wianamatta shales cover a large area in County Cumberland and outcrop in the Blue Mountains.

The Permo-Carboniferous formation extends along the coast between the Clyde and Hunter River districts and westward to the mountains and in the Central-Western Division. This formation is described in detail in the chapter relating to the Mining Industry. Carboniferous strata are developed in the Hunter and Manning River districts, and thence in a north-north-westerly direction to Warialda. They are of marine and fresh water origin, interbedded with tuffs and lavas and intersected by metalliferous lodes, but contain no workable coal seams.

Rocks of Devonian age are developed within the Blue Mountain area and in isolated localities, as in the Yass-Goulburn district, and in the Western and New England Division; they are traversed by metalliferous lodes and quartz reefs.

Upper Silurian beds occur generally west of the tablelands, on the upper courses of the Murrumbidgee and Lachlan Rivers, and extend northwards. They are developed also in the basins of the Clyde and Upper Shoalhaven, and probably in the basins of the Upper Namoi and Macleay Rivers. In certain districts of the State sediments of this age contain commercial deposits of gold, silver, tin, copper, lead, and antimony; the limestone beds in which the Jenolan, Wellington, Yarrangobilly, and Wombeyan Caves occur are of this age.

Ordovician rocks have been located on the Victorian-New South Wales boundary line, and at the localities mentioned in the table of formations. Their area is not defined. Sediments of this age contain important deposits of gold, silver, and copper. Rocks of Cambrian age contain the Broken Hill lode, and probably occur in the Cooma-Albury districts.

Cities and Towns.

Sydney, the capital city of New South Wales, and the seat of Government, is situated on the shores of Port Jackson. It is the oldest and largest of the Australian towns, and is the main commercial and industrial centre of New South Wales. The great bulk of the sea trade of the State passes through Sydney, where all the main railways converge and numerous large manufacturing establishments are conducted.

Newcastle, the port of the largest coal-fields of Australia, is situated at the mouth of the Hunter River, at a distance of 102 miles by rail and 62 by sea from Sydney. Newcastle city extends over some 1,060 acres; its suburbs

cover 17,919 acres, and include busy mining townships. East Maitland and West Maitland are situated on the Hunter River, about 20 miles above Newcastle. Lismore and Grafton are in the North Coast District; Tamworth is on the main Northern Railway; Lithgow, Bathurst, and Orange on the Western; Goulburn, Wagga, and Albury on the Southern.

Broken Hill, near the Western boundary of New South Wales, is the centre of the silver, lead, and zinc mining district of the Barrier Range, and, after Sydney and Newcastle, is the largest town in the State.

FEDERAL CAPITAL TERRITORY.

The Federal Capital Territory, formerly part of the State of New South Wales, is situated in the upper basin of the Murrumbidgee River, being watered by its tributaries, Molonglo and Cotter. Canberra, the site chosen for the capital city, is 5 miles distant from Queanbeyan, with which it is connected by rail. A trial survey has been made of the route for a railway about 135 miles in length to give access to the Federal Port at Jervis Bay. The work of laying out the city is proceeding.

CLIMATE.

Meteorological and Astronomical Records.

The Parliament of the Commonwealth of Australia has power to make laws in regard to astronomical and meteorological observations throughout Australia. Accordingly, with the enactment of the Commonwealth Meteorological Act, 1906, the Commonwealth Meteorologist was authorised to take and record meteorological observations, to forecast weather, issue storm warnings, display weather, flood, frost, and cold wave signals, distribute meteorological information, and to further the public interests which are dependent on a knowledge of meteorological conditions. The meteorological services, previously controlled by the State, were transferred to the Commonwealth.

Meteorological Bureau.

Meteorological observations in New South Wales are directed from Sydney as the centre of a subdivision of Australia, which includes the greater part of New South Wales; a special climatological station is maintained also at Dubbo, and there are many reporting stations throughout the State. Bulletins and weather charts are issued daily by the Meteorological Bureau, and rain maps and isobaric charts are prepared.

Flag signals are displayed in Sydney to give storm warnings, and to indicate fair weather, rain, and cold or heat waves; forecasts are telegraphed daily to towns in country districts, and the city forecasts are published in the early editions of the press.

For the purpose of weather forecasts, the continent is classified according to the distinctive type of climate characterising the area: the northern area, including Queensland, is characterised by a moist, warm climate, with a well-defined maximum of rainfall at mid-summer; the central area is hot and dry, the rainfall irregular, occurring chiefly in summer, and accompanied by electrical disturbances; in the southern area the climate is generally warm and temperate, with rain falling in winter and spring, following the northern path of westerly winds at those periods. Over a long belt stretching from Peak Hill, in Western Australia, through Oodnadatta and across to Sydney, the main rainfall is autumnal, due to the interaction of cyclones and anticyclones. It is evident that such diversity of climate over the continent precludes a general drought, while it also accentuates the difficulty of long distance forecasting.

SYDNEY OBSERVATORY.

Sydney Observatory, lat. $33^{\circ} 51' 41.1''$ south, long. $151^{\circ} 12' 23.1''$ east, established in the year 1856, is a State institution. The immense growth of Sydney has caused such adverse atmospheric conditions that the site is now unfavourable for satisfactory work, and the Government is contemplating its removal from the city.

Daily time-ball services are maintained at Sydney and Newcastle, and arrangements have been made whereby the public may ascertain the correct time directly from the Observatory.

During 1915 observations were taken of 74 clock stars and 14 azimuth stars, and there were 204 determinations of collimation and azimuth. The seismograph worked continuously during the year, 72 tremors being recorded.

STANDARD TIME.

The mean time of the 150th meridian of east longitude, or 10 hours east of Greenwich, has been adopted as the standard time throughout New South Wales, except in the mining area of Broken Hill, where South Australian standard time has been adopted, viz., $142\frac{1}{2}^{\circ}$ of east longitude, or 9 hours 30 minutes east of Greenwich. In Western Australia the standard is the 120° of east longitude, or 8 hours east of Greenwich; in the States of Queensland, Victoria, and Tasmania the standard is the same as in New South Wales.

DAYLIGHT SAVING.

The Daylight Saving Act, 1916, passed by the Parliament of the Commonwealth, commenced on 1st January, 1917, and will continue in force for the duration of the war, and six months thereafter. Notwithstanding anything contained in any State or Commonwealth Act, from the hour of 2 in the morning of 1st January, 1917, until the hour of 2 in the morning of the last Sunday in March, 1917, and thereafter from the hour of 2 in the morning of the last Sunday in September in each year until the hour of 2 in the morning of the last Sunday in March in the next following year, Australian clock time, as regards each State and each Territory of the Commonwealth, will be one hour in advance of standard time.

Nothing in the Act affects the use of standard time for the purposes of astronomy, meteorology, or navigation, nor affects any documents referring to time in connection with any such purpose.

WEATHER.

The weather is determined chiefly by anticyclones, or areas of high barometric pressure, with their attendant tropical and antarctic depressions, in which the winds blow spirally outward from the centre or maximum. These anticyclones pass almost continuously across the face of the continent of Australia from west to east, and the explanation of the existence of such high-pressure belts lies probably in the fact that this area is within the zone in which polar and equatorial currents meet and for some time circulate before flowing north and south. The easterly movement depends on the revolution of the earth.

A general surging movement occasionally takes place in the atmosphere, sometimes towards, and sometimes from, the equator. The movement causes sudden changes in the weather—heat when the surge is to the south, and very cold weather when it moves towards the equator. Probably, these sudden displacements of the air systems are due to thermal action, resulting in expansion or contraction in the atmospheric belts to the north and south of Australia.

New South Wales is peculiarly free from cyclonic disturbances, although occasionally a cyclone may reach the State from the north-east tropics or from the Antarctic low pressure belt which lies to the south of Australia, or may result from monsoonal disturbances.

THE SEASONS.

The seasons occur as follows:—Summer—December, January, and February; autumn—March, April, and May; winter—June, July, and August; spring—September, October, and November.

January is the hottest and July the coldest month, and the temperatures of autumn and spring are approximately the mean of the whole year.

WINDS.

In the summer months the prevailing winds blow from the north on the coast of New South Wales, with an easterly tendency which extends to, and in parts beyond, the highlands; in the western districts the winds usually have a westerly tendency. Southerly winds, which are characteristic of the summer weather on the coast, occur most frequently during the months from September to February, and between 7 p.m. and midnight. These winds, which are deflected sea breezes, cause a rapid fall in temperature, and are sometimes accompanied by thunderstorms.

During winter, the prevailing direction of the wind is westerly. In the southern areas of the State the winds are almost due west, but proceeding northwards there is a southerly tendency, while on reaching latitudes north of Sydney the direction is almost due south. When they reach the north-eastern parts of the State, these winds are deflected in a westerly direction, and are merged in the south-east trade winds north of latitude 30°. During the cold months of the year, Australia lies directly in the great high-pressure stream referred to previously, and the high pressure when passing over the continent tends to break up into individual anti-cyclonic circulations.

RAINFALL.

Generally, the wet season extends over the first six months of the year, although occasionally the most serviceable rains come in the spring. The coastal districts are subject to the heaviest falls, ranging from 30 inches in the south to 70 inches in the north. Despite their proximity to the sea, the mountain chains are not of sufficient elevation to cause any great condensation; so, that, with slight irregularities, the average rainfall gradually diminishes towards the western limits of the State, the figures ranging from a mean of about 50 inches on the seaboard to 10 or 20 inches on the Western Plains.

A classification of areas in New South Wales in accordance with the annual rainfall shows the following distribution:—

Annual Rainfall.	Area.	Annual Rainfall.	Area.
Inches.	Sq. Miles.	Inches.	Sq. Miles.
Over 70	668	15 to 20	57,639
60 to 70	1,765	10 „ 15	77,268
50 „ 60	4,329	Under 10	44,997
40 „ 50	15,804		
30 „ 40	30,700		
20 „ 30	77,202	Total	310,372

The distribution of rainfall is dependent on three factors—(1) the energy present in the atmospheric systems, (2) the rate of travel of the atmospheric stream, and (3) the prevailing latitudes in which the anticyclones are moving.

The chief agencies for precipitating rainfall are Antarctic depressions, monsoonal depressions, and anticyclonic systems. Antarctic depressions are the main cause of the good winter rains in the Riverina and on the South-western Slope. A seasonal prevalence of this type of weather would cause a low rainfall on the coast and tablelands, and over that portion of the inland district north of the Lachlan River. A monsoonal prevalence ensures a good season inland north of the Lachlan, but not necessarily in eastern and southern areas. An anticyclonic prevalence results in good rains over coastal and tableland districts, but causes dryness west of the mountains.

Generally, June is the wettest month in all southern districts west of the highlands; in other parts of the interior the month of greatest humidity is January, February, or March. On the Northern Tablelands, the Central Western Slope, and Central Western Plains, the highest monthly average is recorded in January. February is the wettest month on the North-western Plains and over the country to the north of the Darling and east of the Paroo; and March in the far north-west quarter and over the central Darling country between Tilpa and Pooncarie. In the coastal districts, every month, except November, is represented in some part as the wettest.

The seasonal rain distribution in New South Wales during 1915 was as follows:—January was characterised by exceptional dryness. In February there was a general shortage of rain except at a few places where heavy local thunderstorms occurred; in the middle of the month a tropical disturbance caused light to heavy rain over the eastern portion of the State. March was remarkable for heat and drought, which prevailed generally until the last days of the month, when splendid rains fell in the eastern districts, and greatly benefited the wheat belt.

In the early part of April good rains fell over the southern and north-eastern divisions, but except in the eastern districts the total rainfall during the month was below normal, the shortage being very pronounced in the west. Bounteous rain fell during May, the totals being above the average in all parts of the State. In June good inland rains, with mild temperatures, were experienced, and the total falls were above the average over an extensive area in the southern districts.

During July the rainfall was good west of the mountains, but below normal in many parts of the coastal districts. In August the rainfall was good and the temperature mild in the wheat-growing districts. The wheat areas received substantial and useful rains in September, and the total falls were above the average in the western and southern districts.

In October very dry conditions existed in the northern districts, and the shortage of rain was very pronounced in the central and northern coastal areas, the southern divisions being the only portion of the State where the rainfall was not below normal. In November exceptional dryness was recorded, particularly in the metropolitan and north-coastal districts; but in the early part of December rains fell, and by the middle of that month had exceeded the average in many places.

For the year the rainfall was below the average generally, except in portion of the south-western slopes and southern tableland, and a few places in eastern Riverina, and on the central and northern tablelands.

The following table shows the variation in rainfall in the inland portions of New South Wales during the period 1906-15. It bears out the statement that a universal shortage of rain is unusual. The Riverina and Southern Highlands usually experience opposite conditions.

Year.	Above the Average.					Below the Average.
1906	...	Trans-Darling...	...	...	...	Other Highlands and Coast.
		Western Plains.				
		Riverina, etc.				
		Kosciusko.				
1907	...	North-west Plains	...	...	...	Trans-Darling.
		North-west Slope	...	...	...	Western Plains.
						Highlands and Coast.
1908	...	North Coast and N.E. generally	...			Remainder of State.
1909	...	Highlands and Western Slopes	...			Far West.
						Western Plains.
						Coastal regions.
1910	..	Far West	...	...	...	Western Plains.
		West Riverina	...	...	...	North Coast.
		North-west Slope	...	...	...	Hunter and Macquarie.
		Blue Mountains.				
1911	...	Western Plains	...	...	...	North-west Slope.
		Whole State, except N.E.	...	...	...	North Coast.
1912	...	Riverina	...	...	...	Western Districts.
						North and South Coastal Areas.
						Central and Southern Tablelands.
1913	...	Upper Bogan	...	..	...	Trans-Darling.
		Lower Macquarie	...	...	..	New England.
		East and West Gwydir	..	...	...	Clarence.
		Liverpool Plains	...	...	...	Cudgegong.
		Hunter, Manning and Nepean	...		...	Central Plateau.
		South Coast	...	...	...	Illawarra.
		Upper Murrumbidgee	...	...	...	Jugiong.
						Tumut.
						Riverina.
1914	...	East and West Gwydir, Nandewar...				Trans-Darling and Cis Darling.
		New England	...	...	...	Upper Bogan, Lower Macquarie.
		Manning, Hunter and Nepean	...		...	Liverpool Plains, Clarence.
		Cudgegong, Lowlands, Sydney	...		...	Central Plateau, Warrumbungle.
		Illawarra	...	...	...	South Coast, Upper Murrumbidgee,
						Snowy Mts.
						Jugiong, Tumut, Riverina.
1915	...	Jugiong	...	...	...	Generally.

SNOW.

No part of the surface of New South Wales rises to the line of perpetual snow, but heavy snowfalls occur during the winter months on the Muniong Range and in the Kosciusko region, where snowdrifts may be found in sheltered crevices even in summer. On other parts of the Great Dividing Range snowfalls are experienced occasionally.

CLIMATIC DIVISIONS.

The territory of New South Wales may be divided into four climatic divisions—the Coast, the Tablelands, the Western Slopes of the Dividing Range, and the Western Plains.

Coast.

In the Coastal division, which lies between the Pacific Ocean and the Great Dividing Range, the rainfall average is comparatively high.

Sydney is situated half-way between the extreme northern and southern limits of the State, in latitude $33^{\circ} 51' 41.1''$ S., longitude $151^{\circ} 12' 23.1''$ E. Its mean annual temperature is 63° Fahrenheit. The range is only 17° , calculated over a period of fifty-seven years, the mean summer temperature being about 71° , and the mean winter temperature 54° .

The following table shows the average meteorological conditions of Sydney based on the experience of the fifty-seven years ended 1915:—

Month.	Hourly Average Reading of Standard Barometer, corrected to 32° Fah., Standard Gravity and Mean Sea Level.	Temperature (in shade).			Rainfall.			
		Mean Standard.	Average Reading of Maximum Thermometer.	Average Reading of Minimum Thermometer.	Average.	Greatest.	Least.	Average number of days' Rain.
January ...	29.902	71.6	78.4	64.9	3.477	15.257	0.419	14.1
February..	29.945	71.2	77.4	64.9	4.562	18.556	0.344	14.1
March ...	30.013	69.3	75.5	63.1	5.277	18.700	0.419	15.1
April ...	30.070	64.6	71.0	58.2	5.345	24.492	0.060	13.2
May ...	30.033	58.5	65.0	52.1	5.057	20.868	0.214	15.4
June ...	30.063	54.4	60.5	48.2	5.172	16.296	0.190	12.9
July ...	30.078	52.4	59.0	45.8	4.922	13.208	0.120	12.6
August ...	30.068	55.0	62.3	47.6	3.152	14.886	0.040	11.3
September	30.003	59.0	66.5	51.4	2.838	14.045	0.083	12.1
October ...	29.971	63.6	71.2	55.9	2.808	10.810	0.209	12.6
November	29.939	67.1	74.5	59.7	2.817	9.877	0.070	12.4
December	29.882	70.1	77.3	62.9	2.639	8.469	0.225	12.8

The North Coast districts are favoured with warm, moist climate, the rainfall averaging from 40 to 70 inches annually. The mean temperature for the year is from about 66° to 69° , the summer mean being 75° to 78° , and the winter mean 56° to 58° . On the South Coast the rainfall varies from 30 to 60 inches, and the mean temperature ranges between 57° and 63° , the summer mean being from 66° at the foot of the ranges to 70° on the sea coast, and the winter from 48° to 54° over the same area.

Coastal rains come from the sea with both south-east and north-east winds, being further augmented in the latter part of the year by thunderstorms from the north-west. The principal precipitating agencies are the Antarctic depressions, the anticyclones when travelling in high latitudes, and in the extreme north-east reliable rains are precipitated by the south-east trades.

The following table shows the meteorological conditions of the principal stations in the Coastal Division, arranged in the order of their latitude. These stations are representative of the whole division, and the figures are the average of a large number of years:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Casino	28	82	67·0	75·5	57·3	24·7	116·4	21·0	43·95
Lismore	13	52	66·6	75·0	56·3	22·2	116·2	23·0	52·16
Clarence Heads ...	0	99	67·9	74·9	59·5	15·1	110·0	36·4	55·19
Grafton	22	40	67·5	77·1	57·6	26·3	118·0	20·9	35·04
Port Macquarie ...	0	44	63·3	70·8	54·9	17·0	105·4	24·8	60·87
Singleton	40	135	64·1	76·1	52·1	20·3	113·9	22·0	29·48
Morpeth... ..	15	20	63·8	73·9	54·3	18·1	108·7	26·0	39·11
West Maitland... ..	18	40	64·2	74·8	52·7	20·8	115·0	24·0	34·10
Port Stephens	0	30	64·1	72·6	53·1	20·8	111·2	30·2	56·42
Newcastle	1	112	64·6	72·3	55·4	15·4	110·5	31·0	47·40
Pitt Town	26	40	64·0	76·1	52·6	20·0	113·0	27·2	31·59
Emu	36	87	62·7	73·2	50·4	16·2	107·6	26·8	29·88
Sydney	5	146	63·0	70·9	53·9	13·6	108·5	35·9	48·30
Wollongong	0	33	63·0	70·1	54·8	17·0	113·4	31·9	42·92
Nowra	6	30	61·6	71·0	53·4	19·0	109·5	34·5	37·39
Point Perpendicular ...	0	257	61·5	68·3	53·7	12·3	105·2	25·5	55·35
Moruya Heads	0	55	60·9	68·0	52·8	18·8	114·8	26·3	35·21
Bodalla	7	40	59·9	69·1	50·5	27·7	114·1	18·6	36·32
Bega	0	50	60·5	69·6	48·9	24·9	115·6	16·6	32·08
Eden	0	107	60·0	67·7	51·8	14·2	106·0	29·3	34·40

Taking the coast as a whole, the difference between the mean summer and mean winter temperature is not much over 20°—a range so small as to be rarely found in other countries.

Tablelands.

On the Northern Tableland the rainfall is consistent, ranging from 30 inches in the western parts to 40 inches in the eastern. The temperature is cool and bracing, the average for the year being between 54° and 60°; the mean summer temperature lies between 65° and 70°, and the mean winter between 43° and 45°. The Southern Tableland is the coldest part of the State, the mean annual temperature being only about 56°. In summer the mean ranges from 57° to 68°, and in winter from 34° to 44°. At Kiandra, the elevation of which is 4,640 feet, the mean annual temperature is 44·5°. Near the southern extremity of the tableland, on the Snowy and Muniung Ranges, the snow is present generally throughout the year.

The statement below shows, for the Tablelands, similar particulars to those already given for the Coastal Division:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Tentertfield	80	2,827	58·3	68·6	46·8	24·2	107·1	9·9	32·65
Inverell	124	1,980	59·6	71·3	47·2	29·4	110·6	13·4	30·31
Glen Innes	90	3,518	55·6	66·4	43·8	25·7	107·3	14·4	31·71
Bundarra	113	2,000	60·8	72·3	48·8	25·2	101·0	17·5	30·01
Armidale	81	3,333	56·3	67·4	44·0	24·5	105·2	11·2	31·94
Walcha	83	3,386	54·5	66·3	47·4	23·4	104·1	10·0	30·74
Murrurundi	94	1,545	60·9	73·7	49·7	19·8	107·3	19·0	31·38
Cassilis	120	1,500	60·8	73·6	45·3	21·7	111·7	15·8	23·79
Scone	78	680	62·6	74·3	50·4	29·7	114·4	19·0	23·67
Muswellbrook	68	475	63·8	75·2	49·4	25·4	117·6	19·0	23·58
Mudgee	121	1,635	59·2	72·4	46·8	32·1	114·9	15·0	25·31
Bathurst	96	2,206	57·2	69·8	44·1	28·0	112·9	13·0	23·60
Kurrajong Heights	35	1,870	53·3	61·7	43·9	13·3	99·5	25·5	50·04
Mount Victoria	61	3,490	54·4	65·2	42·6	19·6	106·0	11·9	37·40
Katoomba	53	3,349	53·2	62·5	42·8	15·4	100·0	25·9	56·62
Carcoar	111	2,380	58·0	71·4	44·2	25·9	105·0	15·4	29·44
Springwood	42	1,216	61·1	70·8	47·2	17·4	104·8	32·5	40·99
Cowra	126	987	63·1	78·8	48·5	23·5	116·1	21·0	23·82
Pieton	22	549	61·2	71·8	49·9	27·6	114·0	19·7	30·00
Crookwell	81	2,000	52·0	64·7	39·4	23·7	100·8	12·1	31·81
Moss Vale	31	2,205	55·2	65·6	44·4	21·5	106·0	18·9	38·38
Goulburn	54	2,097	56·1	67·5	44·1	24·1	111·0	13·0	24·81
Yass	92	1,616	57·0	70·1	44·6	24·3	108·0	21·0	23·71
Queanbeyan	60	1,899	57·1	67·3	44·2	29·2	109·4	15·8	22·25
Kiandra	88	4,640	44·1	55·5	32·0	20·6	91·0	⁴ below zero	64·11
Cooma	52	2,617	54·1	65·8	41·9	27·8	112·0	11·0	19·13
Bombala	37	3,000	53·4	64·4	42·8	24·2	104·1	15·5	22·91

Western Slopes.

On the Western Slopes the rainfall is distributed uniformly, varying from 20 inches in the western parts to 30 inches in the eastern; the greater part of the wheat-growing area of the State is situated on these slopes, where the average rainfall is about 25 inches. The mean annual temperature ranges from 69° in the north to 60° in the south; in the summer from 81° to 74°, and in the winter from 53° to 47°.

North of the Lachlan River, good rains are expected from the monsoonal disturbances during February and March, although these may come as late as May, and incidentally during the remainder of the year. These monsoonal or seasonal rains are caused by radiation in the interior of Australia

during the summer months, when the heat suspends the moisture accumulated chiefly from the Southern Ocean.

In the Riverina district, south of the Murrumbidgee generally, and on the South-western Slopes, fairly reliable rains, light but frequent, are experienced during the winter and spring months.

The next statement gives, for the principal stations on the Western Slopes, information similar to that shown for Coast and Tablelands:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Moree	204	680	67·3	80·4	53·2	30·2	117·3	18·0	23·46
Warialda	162	1,106	61·6	74·0	47·9	34·0	117·7	16·0	28·26
Bingara	153	1,200	64·0	76·2	49·8	29·4	116·6	15·5	31·18
Narrabri	193	697	66·8	80·7	51·9	28·4	119·9	18·4	25·88
Gunnedah	156	874	65·4	79·6	51·2	29·1	120·6	16·7	24·66
Coonabarabran ..	185	1,710	59·8	72·7	46·3	32·4	111·9	11·4	29·18
Quirindi	115	1,278	63·9	76·5	48·5	27·1	113·6	17·0	27·50
Dubbo	177	870	63·5	77·4	49·3	28·0	115·4	16·9	22·26
Forbes	176	789	63·0	76·8	48·3	24·3	118·4	24·0	19·81
Young	140	1,416	58·8	72·4	45·8	25·9	113·9	20·3	25·18
Marsden	187	700	64·8	76·8	49·2	25·0	119·7	19·0	19·71
Murrumburrah...	126	1,268	61·1	72·7	46·9	27·1	114·9	20·0	23·82
Wagga Wagga ...	158	612	62·1	75·5	48·6	25·7	119·0	18·4	21·35
Urana	213	400	62·3	76·2	48·1	22·6	117·0	18·4	16·98
Albury	175	542	60·7	74·4	47·5	27·4	117·3	19·9	27·67

Western Plains.

The Western District consists of a vast plain, the continuity of which is broken only by the Grey and Barrier Ranges. Owing to the absence of mountains in the interior, the annual rainfall over a great part of this division, which lies in the zone of perpetual high pressure, does not exceed 10 inches. It increases from 8 inches on the western boundary to 10 and 15 inches along the Darling River, and 20 inches on the eastern limits. The mean annual temperature ranges from 69° in the north to 62° in the south; in the summer from 83° to 74°, and in the winter from 53° to 45°.

Although the summer readings of the thermometer in this district may be from 10° to 20° higher than those on the coast, the heat is not distressing. Excessive heat is experienced occasionally, and with many summers intervening, its occurrence being in all probability due to a temporary stagnation in the easterly atmospheric drift. Under normal conditions, air entering Western Australia with a temperature from 70° or 80° would only accumulate 20° to 25° by contact with the radiation from the soil during its passage across the continent.

Where there is stagnation, however, the air resting over the sandy soils of the interior of Australia becomes superheated, and on reaching the western districts of the eastern States shows a temperature sometimes as much as

40° above the normal. Extensive bush fires also cause a local rise in temperature, and this is due, not only to the actual heat generated, but also to the liberation of combustible matter into the atmosphere; and it has further been affirmed that the presence of a small excess of carbonic acid gas above the normal quantity in air raises the temperature several degrees. The winter, with an average temperature of over 50°, accompanied by clear skies and an absence of snow, leaves little to be desired from the standpoint of health; while, also owing chiefly to the dryness of the climate, these inland regions produce the best merino wool in the world.

The meteorological conditions of the Western Plains will be seen from the following statement, corresponding to those given already for the other divisions of the State:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Brewarrina	345	430	69·3	84·0	52·9	26·3	122·3	24·8	15·90
Walgett... ..	286	436	67·9	82·0	52·8	25·8	122·2	23·2	18·78
Bourke	386	361	69·2	83·6	54·0	27·5	127·0	25·0	14·47
Wilcannia	473	267	66·4	80·2	52·0	26·0	120·8	21·8	10·26
Cobar	345	803	67·0	80·9	52·3	24·1	118·7	25·0	14·39
Broken Hill	555	1,000	64·6	77·6	51·0	23·7	115·9	28·5	9·72
Mount Hope	296	600	64·4	78·6	50·0	22·4	123·6	24·6	15·34
Condobolin	227	700	64·8	78·2	50·9	27·1	122·2	20·5	17·46
Wentworth	478	123	64·0	76·7	51·1	26·7	119·0	21·0	12·15
Hay	309	291	63·2	76·1	50·3	27·6	117·3	22·9	14·26
Euston	422	188	62·4	74·8	50·0	26·3	124·8	17·1	12·25
Deniliquin	287	312	61·7	74·2	48·9	24·2	121·1	18·0	16·26

TIDES.

A self-recording tide-gauge was set up at Fort Denison, in Port Jackson, in 1867. The average range of ordinary tides is 3 feet 4½ inches; of spring tides the average is 5 feet 1½ inches. On 5th January, 1912, and in December, 1910, the tide-gauge at Fort Denison recorded 6 feet 9 inches, which is practically the highest tide registered. The Sydney Harbour Trust, in 1911, installed a tide-gauge of the most modern type at Fort Denison, at Watson's Bay, and at Spectacle Island.

At Port Hunter, the average rise and fall of ordinary tides is 3 feet 4 ⁷/₁₂ inches, and of spring tides 5 feet 5 ¹/₆ inches; the greatest range being 6 feet 6½ inches. The highest tide registered was 7 feet 4 inches in May, 1898.

For the coast the average rise of spring tides may be taken as 5 feet 6 inches.

The accumulation of sand at projecting points, and the shoaling of river and harbour entrances are caused frequently by winds which retard or even reverse the surface flow of the littoral current, the prevailing direction of which is southward.

The river bars where shoaling is most frequent and most pronounced are those where the sandy beach is on the southern side, such as the Tweed, Richmond, and Manning Rivers.

SCIENTIFIC EXPEDITIONS TO THE ANTARCTIC.

During recent years there have been five British expeditions to the Antarctic, viz., the "Discovery," "Nimrod," "Terra Nova," "Aurora," and the "Endurance" and "Aurora"; and two foreign expeditions, one Norwegian and the other Japanese.

The first Australasian Expedition, subsidised to the extent of £7,000 by the New South Wales Government, was under the leadership of Dr. Douglas Mawson, and started south in December, 1911, in the steamer "Aurora." The main objects of this expedition were to explore and chart the coast between Cape Adare and Gaussberg (roughly, a distance of 2,500 miles), to investigate its geology and mineralogy; to study glaciers and ice formation; to make systematic magnetic observations, chiefly in the neighbourhood of the Magnetic Pole; to obtain meteorological records whereby to test the advisableness of establishing a permanent meteorological observatory in those parts; and to investigate the abounding fauna of the sea. Whilst proceeding to Antarctica, the "Aurora" called at Macquarie Island, upon which a wireless telegraph station was erected.

In February, 1913, a wireless message was received in Sydney announcing the deaths of two scientists of the expedition—Lieutenant Ninnis and Dr. Mertz—whilst exploring with Dr. Mawson a considerable distance from the base in Adelie Land. After a difficult journey, Dr. Mawson succeeded in reaching the base, but too late to join the "Aurora," which had sailed for Australia, leaving a party of six to await the leader's return. In February, 1914, Dr. Mawson returned to Australia, having secured scientific data of considerable value.

In August, 1914, an expedition organised by Sir Ernest Shackleton sailed from England in the "Endurance," the plan of the expedition being to land at Weddell Sea, and proceed across the continent. A party under the charge of Captain A. E. Mackintosh, R.N.R., sailed in the "Aurora" from Hobart to land at Ross Sea, and co-operate with the main expedition.

In April, 1916, the "Aurora" returned to New Zealand, Captain Mackintosh and nine members of his party having been left in the Antarctic; these men were ashore in May, 1915, when the vessel was driven from its winter moorings during a blizzard. Subsequently the "Aurora" became locked in a pack of ice, and drifted 1,200 miles before being released in March, 1916. Sir Edward Shackleton and party sailed from South Georgia in the "Endurance" on 8th December, 1914, but were unable to effect a landing on the Antarctic continent. They lost their ship in November, 1915, but succeeded in reaching Elephant Island in the following April; thence Shackleton and five men sailed to West Georgia and obtained assistance from the whaling station. After many unsuccessful attempts the party at Elephant Island were rescued and brought to the mainland in September, 1916. An expedition which sailed for the relief of Captain Mackintosh returned in February, 1917, with seven members of the party, the deaths of Captain Mackintosh and two others having occurred during 1916.

Particulars regarding the other Antarctic expeditions have been given in previous issues of the "Year Book."

TOURIST ATTRACTIONS.

GOVERNMENT TOURIST BUREAU.

THE Government Tourist Bureau of New South Wales, administered in connection with the Immigration Department, was established for the purpose of advertising the scenic and health resorts of the State, to supply information to tourists, and to improve transport facilities and accommodation in tourist districts. Information is supplied at the Bureau free of charge, itineraries are prepared, guide books published, and tours organised, with the object of unfolding the natural beauties and displaying the advantages of all parts of the State to the inquiring traveller and prospective citizen.

Traffic in the various tourist districts has grown rapidly since the establishment of the Bureau, and, apart from the advantages accruing from the movements of local and interstate visitors, the increase in the number of travellers from oversea countries has been especially satisfactory, since such tourists are valuable media for disseminating information concerning the resources of a State which is most desirous of attracting settlers.

The Tourist Bureau co-operates with similar offices in the adjacent States in furnishing particulars regarding other places of interest in Australia.

TOURIST DISTRICTS.

The tourist districts of New South Wales are situated in the coastal and tableland divisions, and are not yet extended to the Great Western Plain, with its rich mineral areas and fine pastoral lands, watered in many places by artesian bores; nor to fertile Riverina, in the south, where the Murrumbidgee Irrigation Area will prove a source of material interest to visitors from other lands.

The main tourist districts are:—

Sydney and its surroundings.	Southern Highlands.
Illawarra and South Coast districts.	Hawkesbury River.
Blue Mountains and Central Tableland.	Northern Lakes.
Jenolan and other Caves.	New England Highlands.
Kosciusko and the Alpine snowfields.	North Coast district.

SYDNEY AND ITS SURROUNDINGS.

Sydney Harbour, Port Jackson, is one of the principal attractions of New South Wales, on account of the beauty of its scenery, its ample anchorage, and its advantages for shipping, which render it one of the finest harbours of the world. The great navigator, Captain Cook, misled by its comparatively narrow entrance, concluded that the inlet was unimportant, but the error of this impression was manifest to Governor Phillip when, seeking a favourable situation for the foundation of the first settlement, he entered the harbour in 1788. Within the bluff headlands which mark the entrance a magnificent panorama is presented, the blue waters of the harbour spreading out into several lake-like expanses, while the united streams of the Lane Cove and Parramatta Rivers enter it from the west; wooded slopes offer charming landscape effects, while curving stretches of sandy beach occur at intervals along the shores. At the entrance the white tower of the Macquarie Lighthouse is situated on the outer South Head, a prominent landmark.

Opposite the harbour entrance stands a bold, rugged promontory, called Middle Head, and its position, as seen by Captain Cook from the deck of the "Endeavour," doubtless gave him the impression that the port was

of insignificant dimensions. To the south, within the entrance, there is a succession of crescent-shaped bays—Watson's and Vacluse Bays, where ocean and harbour views are obtainable; Rose Bay, Double Bay, with Point Piper on its eastern and Darling Point on its western side; Rushcutters' Bay and Elizabeth Bay. Round these shores some of the finest residences and gardens in Sydney are situated. Woolloomooloo Bay is used for oversea commerce, and contains extensive wharves, with modern shipping appliances. Next in order are Farm Cove, a beautiful horseshoe-shaped inlet, reserved exclusively as an anchorage for the warships, and Circular Quay, where some of the large mail steamers are berthed; from this Quay the wharves extend continuously along the foreshores round Miller's Point to Darling Harbour and adjacent bays, where docks are situated.

The foreshores between Woolloomooloo Bay and Circular Quay have been reserved for public recreation, and contain the Public Domain (where the National Art Gallery and Mitchell Library are situated), the Botanic Gardens, historic Government House, and the Conservatorium of Music. The Botanic Gardens are delightfully situated on the shores of Farm Cove; a substantial sandstone wall forms the edge of a fine promenade round the inlet, and on the bright days which are characteristic of New South Wales the well-kept lawns and flower beds, the handsome avenues of decorative trees, and in the foreground the deep blue waters of the bay, on which yachts and sailing craft are seen, constitute a charming landscape. A collection of Australian flora and fauna forms a special feature of the Gardens.

The picturesque Lane Cove and Parramatta Rivers are practically prolongations of the harbour, the fresh-water portions being comparatively insignificant. There are many popular holiday resorts along the banks of these rivers; the Parramatta is notable as the scene of many contests for the sculling championship of the world. Fast and commodious steamers touch at the chief points of interest at regular intervals daily.

Along the northern side of the harbour are the undulating residential suburbs of North Sydney, Neutral Bay, Cremorne, and Mosman; also Taronga Park, where Zoological Gardens of modern design were opened during October, 1916. A railway from Milson's Point, connecting with the Main Northern line at Hornsby, passes through a suburban area containing many beauty spots.

The Middle Harbour branch of Port Jackson contains an area of about 8 square miles; the natural beauty of its surroundings has not been marred by the progress of settlement, and it is one of the most popular resorts in the harbour. A few days may well be spent in exploring the beauties of its bays and of its rugged well-wooded shores. Steamers enter this arm of the harbour round the north of Middle Head, the channel being very narrow owing to the presence of a long sand-bar, called "The Spit."

At the head of North Harbour, and distant about 6 miles from Circular Quay, lies the marine suburb of Manly, situated on a narrow tongue of land between the harbour and the ocean. The hills on each side of the town rise to a considerable height, and their slopes are covered by numerous residences. Manly is a favourite holiday resort, and is reached from Sydney by a constant service of ferry steamers; an alternative route affording ocean and harbour views, is by electric tram from North Sydney, Neutral Bay, Cremorne, or Mosman. There are enclosed baths on the harbour side of the township, but the popularity of this suburb is due mainly to its ocean beaches, where surf-bathing forms a great attraction; a fine promenade over a mile in length extends along the main beach, and commodious buildings have been provided for surf bathers. Throughout the year the climate of Manly is equable, the heat in summer being tempered by the cool sea breezes, while the winter season is mild and enjoyable.

The district along the coast between Manly and Broken Bay is notable for its scenery; a ridge of rugged hills, where boronia, flannel flowers, and other varieties of native flora bloom in profusion, forms a background for numerous sandy beaches. Excellent fishing and boating are available at Narrabeen Lakes, 6 miles from Manly. In the more populous districts south of the harbour entrance the ocean beaches, Bondi, Coogee, and Maroubra, attract large numbers of tourists for surf-bathing.

As Sydney is favoured with a temperate climate, and a harbour of such noble proportions, it is only natural that sailing, rowing, and other marine recreations should be popular pastimes amongst its inhabitants. There are numerous yacht and other sailing clubs; and in the summer season the waters of the port present an animated and beautiful sight.

There are good fishing grounds in the harbour and in the neighbouring ocean; the fishing grounds along the coast are visited by steamers, regular trips being made in the winter season.

Surrounding the city there are many public buildings and places of interest to tourists, such as the National Art Gallery, Public Libraries and Museums, the Cathedrals, the University, Zoological Gardens, Observatory, Centennial Park, and numerous sports grounds.

THE ILLAWARRA AND SOUTH COAST DISTRICTS.

The Illawarra and South Coast districts, extending from Sydney to the Victorian border, embrace some of the most picturesque country in Australia. Here the Southern Tableland approaches very closely to the sea coast, and at Clifton the mountains rise almost sheer from the water's edge. Beyond this point, however, the tableland retreats inland, but even so far south as the Shoalhaven River, it is within 8 miles of the sea. From Clifton southward practically the whole of this strip of country is of great fertility, while rich coal-seams occur throughout the entire extent of the seaward face of the tableland. The district is traversed by the South Coast railway as far as Nowra, and contains excellent dairying land, its fertile meadows being intersected by fern-fringed creeks. On the edge of the tableland there are numerous view-points of mountain, lake, and ocean scenery. At each of the little villages along the railway line the tourist may vary the pleasures of sea-bathing with hill-climbing; and in the lakes off the coast excellent fishing abounds, while the sportsman may enjoy some fair shooting. During the daytime the summer heat is modified by the cool breeze from the wide expanse of the Pacific Ocean.

At La Perouse, on the northern headland of Botany Bay, a column has been erected to the memory of La Pérouse, the celebrated French navigator, who entered the Bay shortly after the arrival of Governor Phillip; there is also a camp and reserve for aboriginals. Kurnell, on the southern headland, is notable as the landing-place of Captain Cook, whose memory is perpetuated by the erection of an inscribed obelisk.

The railway line from Sydney passes at the head of Botany Bay, and crosses George's River at Como, a favourite fishing resort. From Sutherland tourists may proceed to Cronulla, a beautiful watering place possessing a fine surfing beach, and Port Hacking, a well-known fishing ground. The National Park, a pleasure ground of 33,747 acres, with a frontage of $7\frac{1}{2}$ miles to the Pacific Ocean, extends from the shore of Port Hacking into the mountainous Illawarra district to the south. The reserve consists mostly of high tablelands intersected by deep glens and gorges; ferns, shrubs, and wild flowers abound along the banks of the numerous streams.

At Stanwell Park there are beautiful views of ocean and mountain, and the photographer may find many charming subjects for his camera, the steep mountain sides forming an effective background to the palms and other

vegetation of the seaward slopes. Endless attractions also are offered to the botanist by the profusion of ferns and wild flowers of remarkable variety and beauty, and fishing is obtainable from the rocks of the sea coast. Passing Clifton and Scarborough, the railway runs along the edge of the cliffs hundreds of feet above the sea, to Thirroul and Bulli, within 3 miles of the famous Bulli Pass. From the top of the Pass there are magnificent views of the underlying country and ocean, the landscape taking in 30 or 40 miles of coastline. Leaving Bulli the line proceeds southward, still in close proximity to the coast, through Wollongong, a town of considerable size, surrounded by fine scenery. Many pleasant excursions can be made to Mount Keira and other view-points; the long stretches of sandy beach, the golf links, and fishing grounds attract large numbers of tourists. Two miles south of Wollongong is the new harbour of Port Kembla, where are situated the electrolytic works of the Australian Smelting Company, which attract many thousands of visitors interested in the industries of the State.

Between Dapto and Albion Park the railway skirts the shores of Lake Illawarra, where good fishing and shooting are obtainable; several of the islands in the lake are noted for beauty and variety of vegetation. Shell-harbour and Kiama are attractive seaside resorts. Kiama, 71 miles from Sydney, is picturesquely situated on gently undulating slopes; one of the principal attractions is the "Blowhole," an extensive subterranean channel in the volcanic rocks, on the southern side of the harbour. At the landward extremity the opening bends abruptly upwards, and during heavy weather the waves are forced through the vent and break forth in geyser-like clouds of spray and foam, which rise to a considerable height. Between Kiama and the terminus of the South Coast railway at Nowra the line passes through rich dairy lands.

The railway ends on the north bank of the Shoalhaven; in its lower course this river passes through alluvial flats of great fertility, and the scenery is in marked contrast to the ruggedness of the upper reaches, where at times the stream flows through gorges over 1,000 feet deep. Twelve miles to the south of the Shoalhaven entrance lies the splendid inlet called Jervis Bay, where the Naval College is situated. Jervis Bay and the adjacent St. George's Basin are favourite fishing and camping grounds; some of the smaller streams in the district have been stocked with trout.

One of the finest views in the State can be obtained from the summit of Cambewarra Pass, on the road from Nowra to Kangaroo Valley and Moss Vale. The outlook takes in a large portion of the course of the Shoalhaven River and Broughton Creek, and the wild mountain ranges in which they have their sources; also Jervis Bay and St. George's Basin, and the deep blue waters of the ocean. The vegetation on the Cambewarra Mountains shows a great variety and beauty of foliage and flower. Many important species of native timber are found in the Shoalhaven district, such as the cedar, the tamarind, the pencil, and the sassafras.

South of Jervis Bay the numerous inlets, with their sandy beaches and the mountain ranges which break the continuity of the coastal plain, afford excellent facilities for surf bathing, fishing, shooting, boating, motoring, and other pastimes. Moruya, Narooma, Bega, and the historic Twofold Bay hold many attractions in the far South Coast.

THE BLUE MOUNTAINS AND CENTRAL TABLELANDS.

The Blue Mountains are famous for grandeur of scenery, as well as salubrity of climate, and being within convenient distance of the metropolis, have become the most important tourist district of the State.

The mountains are traversed by the Main Western railway, which reaches the foothills about 40 miles from Sydney after passing the historic town of

Parramatta, at the head of the navigable part of the Parramatta River, and Penrith, a busy township on the eastern bank of the Nepean River.

Immediately after crossing this river the line begins to ascend, and an extensive panoramic view may be obtained of the Emu Plains and the Nepean River. The first mountain station is Glenbrook; thence the line passes through a number of splendid health and holiday resorts, where the bracing atmosphere provides a beneficial change from the climate of the coastal plains. From Glenbrook to Lawson, 17 miles, the beauty spots consist mainly of rustic walks leading to ferny glades, gullies, and waterfalls, but further west the scenery assumes the more impressive grandeur of precipitous gorges and ravines, with numerous view-points overlooking the Jamieson, Megalong, and Kanimbla Valleys.

Wentworth Falls, the next village, Leura, an important resort noted for its fine scenery, Medlow, and Blackheath, attract a large number of tourists; but the town of Katoomba, 66 miles from Sydney, is the most populous tourist centre on the Blue Mountains. This town occupies a splendid position on the eastern slope of the mountains, and is notable for its magnificent and comprehensive views.

Only a passing reference may be made to the numerous interesting and beautiful views in this district, such as Echo Point, which commands a wide view of the Jamieson Valley; Narrow Neck, a remarkable isthmus dividing the Jamieson and Megalong Valleys; the Explorers' Tree, marked by Blaxland, Lawson, and Wentworth on their historic journey in 1813 across the mountains; the picturesque Minne-ha-ha Falls, about 3 miles to the north of Katoomba. At Wentworth Falls the principal places of interest are the Falls, the National Pass, and the beautiful Valley of the Waters. Blackheath is situated on a neck of land between the Megalong and Grose Valleys. An exceptionally fine view is obtained at Govett's Leap, 2 miles from Blackheath, where the waters of a creek flow over the edge of a precipice on to a ledge 520 feet below. Deep down in the gorge, the bottom of which is 1,200 feet from the summit of the surrounding cliffs, a line of brighter green in the foliage of the trees marks the course of the Grose River. Mount York, 4 miles from Mount Victoria, is a magnificent view-point of historic interest, from which the explorers in 1813 obtained their first glimpse of the western plains; an obelisk has been erected to commemorate the first crossing of the mountains.

Near all the railway stations from Glenbrook to Mount Victoria there are numerous attractive views.

After crossing the range the railway line passes through Lithgow to the towns of Bathurst and Orange, which are situated on the Macquarie River, and are renowned for a bracing and salubrious climate.

JENOLAN AND OTHER LIMESTONE CAVES.

The limestone caves are situated in the southern tableland, in an extensive limestone belt, which is an old coral reef of Palæozoic age. The best known are the Jenolan (high mountain) Caves, which have become world renowned, and are superior in beauty and variety of formation to those of any other country. The visitor has a choice of routes to the Caves, as motor-cars ply regularly from several stations on the Blue Mountains, but the most convenient is by way of Mount Victoria, distant about 26 miles. The trip through the clear mountain air is most exhilarating, and at several points superb views are obtained. Before reaching the Caves House—a comfortable building erected by the Government for the accommodation of tourists—the road passes through the Grand Arch, an irregular tunnel about 200 feet broad and 70 feet high, which pierces portion of the limestone belt in which the caves are situated. Large sums of money

have been spent in improving the approaches, making paths, and providing electric light and other appliances, whereby the great natural beauties of the caves can be seen to most advantage.

Some very pleasant excursions may be made in the district immediately surrounding the Caves, where the Government has set apart about 6,000 acres as a reserve.

Yarrangobilly Caves.

The Yarrangobilly caves, which are located in the wild Talbingo Ranges, near the southern border of the State, rival in beauty those at Jenolan; they are easily accessible from Cooma or Tumut, and are generally included with Mount Kosciusko in an interesting motor trip starting from either of these towns. The entrances are in the side of a hill, commanding a splendid view over a fine, well-watered valley. Formations may be seen in the caves of great variety of shape and hue, and fresh beauties are being unveiled by further explorations; near the caves there is a thermal spring, with facilities for bathing, and trout fishing may be obtained in the rivers in this locality.

Wombeyan Caves.

The Wombeyan Caves are situated in a picturesque valley in the Southern Highlands, about 40 miles from Bowral and adjacent stations on the Main Southern railway. The caves are extensive, and are remarkable for the magnificence and delicacy of their wonderful formations. Good shooting is obtainable in the district surrounding the caves, which may be reached from Goulburn by a good road of 50 miles.

Other Caves.

There are other limestone caves of less importance, such as the Abercrombie, about 30 miles from Newbridge, on the Main Western railway; the Wellington, near the town of the same name; the Belubula, within easy reach of the railway town of Carcoar; and the Bungonia, in the southern district. Being distant from the main routes, these caves do not attract many tourists, and are visited mainly by residents of the surrounding districts. At Abercrombie there is a very fine natural arch; and near Bungonia there is a natural mineral spring, from which an excellent aerated table water is obtained.

KOSCIUSKO AND THE ALPINE SNOWFIELDS.

Mount Kosciusko, so named by Count Strzelecki, in 1840, reaches an altitude of 7,305 feet, and is the highest mountain in Australia. Geologists state that the Kosciusko plateau is one of the oldest land surfaces in the world, and is probably the remnant of an ancient peak denuded by the action of glaciers. Snow lies on the topmost points of the Muniong Ranges for six months of the year, and, although Kosciusko's rounded summit is 700 feet below the line of perpetual snow, snowdrifts may be found in its sheltered hollows even in the height of summer. Several lakelets are situated on the highest slopes, and in their icy waters a species of trout is found. From the top of Kosciusko there is a view of marvellous grandeur; to the eastward the rich Monaro Plains and the far-distant coastal ranges may be seen; westward, the outlook takes in the Upper Murray Valley; to the north is the wild region of the Snowy River Valley; and southward the landscape embraces the mountain ranges on the boundary of the State, as well as a considerable area of the Gippsland district in Victoria.

About 17 miles from the summit of the mountain the Government has established a commodious hotel for tourists. In the winter season ski-

running, ice skating, and other Alpine sports attract many visitors, and a series of Alpine carnivals is held annually; trout-fishing, golfing, riding, and motor trips provide diversion in summer.

The journey to Kosciusko is by motor from Cooma through Jindabyne, on the Snowy River; many fine views of the rich fertile valleys of the Snowy, Eucumbene, and Thredbo Rivers may be obtained from the hilltops. The Creel on the Thredbo River, at the foot of the Kosciusko ridge, is a popular resort for anglers, all the streams in the neighbourhood being heavily stocked with trout. Kiandra, situated about 14 miles from Yarrangobilly Caves, at an altitude of 4,640 feet above sea-level, is the highest township in New South Wales; its splendid snowfields have for many years proved an attraction to ski-runners.

THE SOUTHERN HIGHLANDS.

Many of the holiday and tourist resorts of the Southern highlands are famed for salubrity, as well as for beauty of scenery. Thirty-four miles from Sydney lies the old-fashioned town of Campbelltown, the centre of a rich dairying district. A very pleasant trip can be made from this point through the quaint little village of Appin to the Loddon Falls, and thence over the Bulli Pass to the South Coast Railway Line. About 8 miles westward from Campbelltown, and close to the placid waters of the Upper Nepean, the beautiful little township of Camden is situated. The surrounding district possesses historic interest because the first Australian attempts at wool-growing and viticulture were made there; good shooting may be had within easy distance of the town.

Picton, 53 miles from Sydney, is charmingly situated in a basin formed by the surrounding hills. One of the most interesting sights of this district is the famous sunken Burratorang Valley, hollowed out by the agency of running water to a depth of over 2,000 feet. The Wollondilly River flows through the valley, which contains also the Yerranderie silver field; the road from Picton or Camden passes through wild, magnificent scenery. Thirlmere, Mittagong, Bowral, and Moss Vale are popular health resorts, noted for a pleasant climate. At Thirlmere and Mittagong there are chalybeate springs of medicinal value. The surrounding country does not possess the ruggedness of the Blue Mountains, but there is some very beautiful scenery. From these towns it is possible to reach the South Coast Railway at Kiama, by way of Robertson and Jamberoo, or at Albion Park and Dapto, by traversing the picturesque Macquarie Pass.

The following places of interest, all well worthy of a visit, may be reached by good roads from Moss Vale:—Fitzroy and Meryla Falls, Belmore Falls, Carrington Falls, Macquarie Pass, and Kangaroo Valley. The road from Moss Vale to Nowra, a distance of 38 miles, passes through splendid mountain scenery, and fine panoramic views are obtainable of the ocean and the fertile coastal districts.

Bundanoon, 95 miles from Sydney, is another much-favoured health resort, its climate being particularly favourable for convalescents. There is some very fine scenery in the Bundanoon gullies, within a short distance of the railway station. Marulan is a quiet spot 114 miles from Sydney, and not far from the wild and picturesque gorges of the Upper Shoalhaven; there are good roads for motoring, cycling, and driving, and excellent shooting may be obtained. From Goondah, 66 miles beyond Goulburn, on the Main Southern Railway, a narrow-gauge line runs to Burrinjuck, the site of the huge storage dam which supplies the Murrumbidgee Irrigation Area; the scenery along the route is very fine.

The tourist who wishes to see the fine pastoral land of the rich Monaro district proceeds by branch line from Goulburn to Cooma. On the way, Lake Bathurst is passed near Tarago, and between Fairy Meadow and

Bungendore a glimpse may be obtained of Lake George—the largest lake in the State. In favourable seasons the lake shores are excellent camping-grounds, and there is good shooting on its waters and in the surrounding country.

Canberra, the Federal capital, is situated about 5 miles from Queanbeyan on this line, and 40 miles from Yass. It has an altitude varying from 1,800 to 2,000 feet; Mount Ainslie, 2,762 feet, and Black Mountain, 2,658 feet, are in the locality, and the Molonglo River runs through the city site. The Royal Military College at Duntroon is on the eastern boundary. Cooma, 3,000 feet above sea-level, possesses a delightful summer climate. From Mount Gladstone, 3 miles away, a fine comprehensive view includes a large portion of the Southern Tableland and the snow-clad summit of Mount Kosciusko. Several interesting tourist trips may be made from Cooma. The Yarrangobilly Caves, elsewhere mentioned, are 65 miles distant by a road passing north-west through Adaminaby and Kiandra.

HAWKESBURY RIVER.

The Hawkesbury River affords numerous facilities and attractions for the tourist seeking health, sport, or beautiful scenery. Under the name of Nepean, this river flows along the base of the Blue Mountains; but the wild grandeur of the scenery on the Lower Hawkesbury is in marked contrast to the calm, peaceful beauty of the reaches on the Nepean.

The Main Northern Railway crosses the Hawkesbury River about 36 miles from Sydney, and 7 miles from the mouth of Broken Bay. Probably the best way for the tourist to enjoy the scenic beauties of this stream is to hire a boat, take a light camping outfit, and spend a few days in exploration. He will thus be able to visit many places of interest out of the ordinary track, such as the numerous rock caverns, some of which are decorated with ancient aboriginal drawings. The botanist will find, on the ridges near the river, wild flowers of wonderful form and hue; for the sportsman there is plenty of game of various kinds. As regards fishing, the Hawkesbury and its tributaries offer exceptional facilities, and constitute one of the finest fishing-grounds within easy reach of the metropolis.

Some of the creeks running into the Hawkesbury are of great beauty, their bright blue waters and golden beaches standing out in marked contrast to the dark green of the wooded hills surrounding them. Berowra Creek winds amongst rugged sandstone hills, and affords charming views of water and woodland; the picturesque Cowan Creek is a most popular resort; its gigantic basin between the hills affords shelter for yachts, skiffs, and house-boats; it is reached most easily from Berowra railway station, 28 miles from Sydney.

On the southern shore of the Hawkesbury River, intersected by the Cowan Creek, is Kuring-gai Chase, a national park of 35,300 acres reserved to provide a pleasure-ground convenient to the metropolis, and to preserve the natural flora and fauna. The Chase embraces many arms of Broken Bay, and contains picturesque gullies, with many varieties of wild flowers and ferns, and numerous sandy beaches. The waters of Kuring-gai Chase abound with fish, and there are some fine oyster-beds.

Pittwater, the southern arm of Broken Bay, is admirably adapted for marine recreations; on its shores Bayview and Newport are popular resorts. Palm Beach, near Barrenjoey, affords capital surfing.

Brisbane Water, the northern branch of the Hawkesbury estuary, with its affluents, forms a most picturesque locality; its extensive facilities for shooting and fishing attract many tourists. Woy Woy, Point Clare, and Gosford, well-known fishing resorts, are situated on its shores.

In the Central Hawkesbury district two interesting townships are Windsor, one of the oldest settlements; and Richmond, where the Hawkesbury Agricultural College is situated. This district is served by a railway branching from the Main Western line at Blacktown.

NORTHERN LAKES.

Along the coast to the north of Broken Bay stretches a chain of lakes which have communication with the sea by narrow channels; these lakes, with the intervening beaches, provide most beautiful effects. Terrigal is a seaside resort, with a fine beach extending between the outlets of the Terrigal and Wamberal Lakes. The Tuggerah Lakes consist of a chain of three, connected by narrow channels; there are ideal spots for camping on the shores, and fine fishing is obtainable in the lakes as well as in the Wyong River, which flows into them.

Lake Macquarie, about 8 miles south of Newcastle, offers a variety of attractions to the tourist. The lake has 200 miles of shore line, and, unlike the Tuggerah, has a navigable entrance to the ocean. Its numerous bays and promontories, with their grassy banks, are strikingly beautiful, and excellent facilities for fishing, shooting, and sailing are available. The principal settlement on its shores is Toronto. The tourist who wishes to visit Lake Macquarie leaves the train at Fassifern, 88 miles from Sydney, whence a tram runs to the lake shore.

To the north of Newcastle a trip which is rapidly gaining popularity is the Great Lakes Tour along an extensive chain of lakes and rivers lying between the valleys of the Hunter and Hastings Rivers. The itinerary includes Port Stephens, with its branching waterways, the Karuah and Myall Rivers, the Broadwater, the Myall Lakes, Smith's Lake, Lake Wallis, and the Manning River. The Myall Lakes are a series of lagoons extending through rugged country for 30 miles along the course of the Myall River. The scenic charm of the district is enhanced by the diversions of excellent fishing and shooting, and the comfort of the tourist is assured by good accommodation and an efficient service of steamers and launches.

THE NORTH-WEST.

Artesian Bore Baths.

Moree, on the North-west Plains, 413 miles from Sydney, has been for many years the centre of an important pastoral division of New South Wales. It is now gaining in fame for the curative properties of its artesian bore baths. The bore, which is 2,790 feet deep, and near the railway station, has a flow of upwards of 600,000 gallons daily. The water not only supplies the baths, but also the driving power for the wool-scouring plant, as well as to farms, cordial factories, &c.

The baths are controlled by the Council of the Municipality, and consist of two large swimming basins and a number of private bathing apartments.

The basins, each 60 feet by 20 feet, are constructed of reinforced cement, the water is kept fresh during the day, and the basins are emptied and cleansed at night. The following analysis of the water has been obtained:—

						In grs. per gal.
Total solid matter dried at 220° Fahr.	...	...	...	...	...	44.408
Sodium carbonate	...	...	...	...	...	35.198
Potassium carbonate..	...	...	...	...	...	Traces
Calcium carbonate	...	...	...	...	...	.399
Magnesium carbonate	...	...	...	...	...	Traces
Sodium chloride	...	...	...	...	...	6.733
Sodium sulphate	...	...	...	...	...	Absent
Silica	...	...	...	...	...	1.624
Ferrie oxide and alumina	...	...	...	...	...	Traces

The temperature of the bore water is 114 degrees Fahr. Special tests recently made prove the waters to be slightly radio-active, and the analyst's report indicates that this radio-activity may be a factor in the cures attributed to the baths.

NEW ENGLAND HIGHLANDS.

The New England highlands, which embrace practically the whole of the Northern Tableland, are notable for a cool, invigorating climate.

The first portion of the railway line from Newcastle traverses the Hunter River Valley, which contains one of the richest and most extensive coal-fields in the world, while the broad alluvial flats of the Hunter Basin produce prolific crops of lucerne, maize, potatoes, grapes, and fruit.

In a spur of the Liverpool Range, which forms the boundary of the Hunter Valley, the line passes Mount Wingen, one of the natural curiosities of Australia which obtains considerable attention. It is a burning mountain, whose fires are attributed to the ignition of a thick bed of coal some distance underground; it is estimated that they have been alight for at least 800 years.

In the highlands, Armidale is a popular centre; the surrounding scenery consists of rugged mountains and picturesque waterfalls. The Apsley and Tia Falls are near Walcha, and other places of interest are at Uralla and Guyra.

NORTH COAST DISTRICT.

The North Coast district, extending from the valley of the Hunter to the Queensland border, is a vast expanse of wonderfully fertile country, with an ideal winter climate. The lower portion embraces the chain of coastal lakes already mentioned; the region lying to the north of the Hastings River presents a wealth of wonderful scenery, with facilities for boating, fishing, shooting, surf-bathing, and mountaineering. From Point Danger, at the northern extremity, the coast-line sweeps boldly southward, its rocky promontories alternating with sandy beaches, and the land-locked estuaries of numerous streams flowing from the rugged slopes of the Great Dividing Range. Characteristic of the North Coast district is its luxuriant vegetation, and in the forests there is a great variety of timbers—teak, pine, cedar, ironbark, tallow-wood, beech, rosewood, and many others. The river basins are occupied by thriving dairy-farms and fields of maize and sugarcane.

The Tweed River waters a fertile district with fine landscapes; Mount Warning, near the head of the river, commands a magnificent panoramic view, and is a well-known landmark for coasting vessels. Tweed Heads, the Brunswick River, and Byron Bay are favourite watering places. On the Richmond River are Ballina, an attractive resort, and Lismore, noted for its business activity.

The Clarence is the finest of the Northern rivers; its broad expanse is dotted with numerous islands, and the fields of sugarcane and maize, together with dense subtropical vegetation along the banks, present scenery of wonderful beauty. In the neighbourhood of Grafton, the principal town, there are many good camping grounds, with facilities for fishing, shooting, and swimming. Coff's Harbour is the port of access to the fertile Dorriggo district.

The Macleay River rivals the Clarence in beauty, and has many attractions for tourists. Trial Bay, at the mouth of the Macleay, and Port Macquarie, at the mouth of the Hastings, are popular watering places, the latter being one of the oldest country towns in New South Wales. Throughout the North Coast district there are many other beauty spots which, being difficult of access, are as yet little known, but with the rapid advance of settlement they should develop into popular resorts.

CONSTITUTION, GOVERNMENT, AND DEFENCE.

DEVELOPMENT OF REPRESENTATIVE GOVERNMENT.

EARLY CONSTITUTIONS OF NEW SOUTH WALES.

ON the foundation of New South Wales as a British Colony the Governor was empowered, under his Commission and Letters Patent, to make ordinances for the government of the settlement; subsequently he was authorised to impose a limited taxation by customs duties, and during the first thirty-five years of the colony's existence was possessed of virtually absolute administrative power.

In 1823 an Act was passed in the Imperial Parliament, providing "for the better administration of justice in New South Wales and Van Diemen's Land" by the creation of a Legislative Council, with a minimum of five and a maximum of seven members, nominated by the Governor. This Council acted as an advisory body to the Governor, with authority to assist him in making laws and ordinances. Five members were appointed under His Majesty's warrant of 1st December, 1823, viz.:—Wm. Stewart, Lieutenant-Governor; Francis Forbes, Chief Justice; Frederic Goulburn, Colonial Secretary; James Bowman, Principal Surgeon; John Oxley, Surveyor-General.

All laws or ordinances had to be submitted to a summoned meeting of this Council, and any action of the Governor contrary to the advice of the Council was referable to England for decision. The first meeting of the Council was held on 25th August, 1824. Practically coincident with the institution of this Legislative Council, which embodied the first form of constitutional government, a new Charter of Justice was proclaimed, and the system of trial by jury inaugurated.

The Legislative Council, as constituted in 1823, was subsequently increased in membership in 1828 to fifteen members, and its functions were extended; but twenty years of its existence demonstrated the inefficacy of such a limited measure of constitutional government in the face of expanding commercial and agricultural interests of a rapidly developing population.

REPRESENTATIVE GOVERNMENT.

In 1843 a measure of direct representation in the Legislative Council was given to the people of the Colony by means of an Imperial enactment of the previous year which, while defining the functions of the Council and the conditions under which Royal Assent was to be accorded to bills passed by it, extended its membership to thirty-six, namely, twelve nominees of the Crown and twenty-four members elected by the people.

Eight years' experience of partly representative government evidenced the necessity for extension of popular representation. In 1851 the Australian Colonies Government Act of the Imperial Parliament gave authority to the existing Legislative Council to prepare a democratic Constitution for the colonies. At the same time, provision was made for the establishment of Port Phillip District as a separate colony. In 1853 a select committee of the Council,

which then numbered fifty-four (thirty-six elective and eighteen nominee members), adopted a draft Constitution for a Legislature of two Houses, which, with minor amendments, was accepted by the Imperial Parliament in 1855. The New South Wales Constitution Act, 1855, conferred a fully responsible system of government, entire control of Crown lands devolving upon the New South Wales Parliament, which was empowered also, subject to the provisions of the Act, to make laws amending its Constitution.

The first elective Parliament was opened by Governor Denison, on 22nd May, 1856. Subsequently the Constitution was amended by Acts passed in 1857, 1884, and 1890, which were consolidated in the Constitution Act, 1902. Further amendments were made in 1908, 1914, and 1916, but the essential form of the original Legislature remains intact, though its functions have from time to time been enlarged by Imperial enactments, such as those which empowered the State Parliament to deal with matters relating to coinage, copyright, extradition, naturalisation, shipping, &c. Since 1901, when the Commonwealth of Australia was inaugurated, legislative functions have been divided between the Parliaments of the Commonwealth and of the State.

INAUGURATION OF THE COMMONWEALTH.

The question of establishing a Federal Legislature, to deal with the common interests of the colonies, was considered when arrangements were being made for the separation of Victoria and New South Wales and for the self-government of the Australian colonies in 1850; and for forty years the problems of federation were discussed at conferences and in Parliamentary Committees, but the most practical and definite step towards the achievement of federation was taken in 1890, when a conference of representatives from the seven Australasian colonies was held in Melbourne; arrangements were then made for a Federal Convention of members, appointed by the various Parliaments, to draft an adequate scheme for a Federal Constitution. The Draft Bill produced by this Convention in 1891 was intended for discussion in the State Parliaments, but lapsed for lack of popular enthusiasm. In the financial and commercial depression of succeeding years the necessity for federation was felt keenly, and another conference was held in Hobart in 1895; as a result a Constitution was drawn up by elected representatives of New South Wales, Victoria, South Australia, Western Australia, and Tasmania, and submitted to the electors by means of a referendum in 1898. The Bill was accepted in Victoria, South Australia, and Tasmania; in New South Wales the majority of votes secured was insufficient; in Western Australia the referendum was deferred, as the Enabling Bill of that State made the acceptance of the Constitution by New South Wales a necessary condition. Queensland did not join the federal movement until the following year.

The Constitution Bill was subsequently accepted by each of the six States of Australia, and received the Royal Assent; the formal inauguration of the Commonwealth took place on 1st January, 1901, the first day of the twentieth century, and the first Parliament was opened on 9th May, 1901, by H.R.H. the Duke of Cornwall and York.

FUNCTIONS.

Under the Commonwealth of Australia Constitution Act, the Parliament of the Commonwealth is empowered to make laws on matters affecting the peace, order, and good government of the Commonwealth, particularly with respect

to the following:—Trade and commerce with other countries and among States, taxation, bounties on production, borrowing money on public credit, postal, telegraphic and telephonic services, defence, lighthouses, astronomical and meteorological observations, quarantine, fisheries, census and statistics, currency, banking, insurance, weights and measures, bills of exchange, and promissory notes, bankruptcy, copyright, patents and trade marks, naturalisation and aliens, foreign corporations and trading, or financial corporations formed within the Commonwealth, marriage, divorce, invalid and old-age pensions, migration, external affairs, railway control in relation to defence and railway acquisition or construction, subject to the consent of the State, conciliation and arbitration in regard to disputes extending beyond the limits of one State.

To alter the Constitution, the law for the proposed alteration must be submitted to a referendum of electors not less than two nor more than six months after its passage through both Houses of Parliament, and must be approved by a majority of electors voting, in a majority of the States, as well as in the whole Commonwealth. The Constitution has been altered by the Constitution Alteration (Senate Elections) Act, 1906, and the Constitution Alteration (State Debts) Act, 1909.

The Parliament of the Commonwealth is empowered specifically to legislate on any matter referred to it by the Parliament or Parliaments of any State or States, but so that the law made shall extend only to the States which are parties to the reference.

Outside the specific functions of the Commonwealth the Constitution of each State continues as at the establishment of the Commonwealth, and the Parliament of New South Wales has legislative power in all matters not specifically within the functions of the Commonwealth.

EXECUTIVE GOVERNMENT.

In both Commonwealth and State the executive government rests with a Governor representing the Crown, who acts on the advice of an Executive Council responsible to Parliament.

Commonwealth Executive Government.

The Crown is represented by the Governor-General of Australia, who is appointed by the King. The Senate and the House of Representatives are elective Chambers, being the Upper and Lower Houses respectively. As representative of the King, the Governor-General is Commander-in-Chief of the Naval and Military Forces. His office carries a salary of £10,000 per annum, and the amount is not alterable during his occupancy of office. The present Governor-General and Commander-in-Chief is the Right Hon. Sir Ronald Craufurd Munro Ferguson, P.C., G.C.M.G.

The Governor-General's powers and functions are assigned to him under his Commission, subject to the Constitution; as head of the Legislature he appoints the times for holding sessions of Parliament, prorogues Parliament, and dissolves the House of Representatives. In his Executive Government he is advised by the Executive Council, which is composed of members summoned by the Governor-General, being Ministers of the Crown administering Commonwealth Departments. Under the provisions of the Constitution Act the Ministry numbered seven, the maximum amount specified for their salaries was £12,000 per annum, until the enactment of the Ministers of State Act in July, 1915, by which the number of Ministers was increased to eight and the amount appropriated for their salaries to £13,650.

Succession of Governors-General.

In the following tabular statement is shown the succession of Governors-General since the inauguration of the Commonwealth:—

Name.	From—	To—
Rt. Hon. Earl of Hopetoun (afterwards Marquis of Linlithgow), P.C., K.T., G.C.M.G., G.C.V.O.	1 Jan., 1901 ...	9 May, 1902.
Rt. Hon. Hallam Baron Tennyson, G.C.M.G. (Acting Governor-General).	17 July, 1902.	
Rt. Hon. Hallam Baron Tennyson, G.C.M.G. ...	9 Jan., 1903 ..	21 Jan., 1904.
Rt. Hon. Henry Stafford Northcote, P.C., G.C.M.G., G.C.I.E., C.B.	21 Jan., 1904 ...	8 Sept., 1908.
Rt. Hon. William Humble Earl of Dudley, P.C., G.C.M.G., G.C.V.O., &c.	9 Sept., 1908 ...	31 July, 1911.
Rt. Hon. Thomas Baron Denman, P.C., G.C.M.G., K.C.V.O.	31 July, 1911 ...	16 May, 1914.
Rt. Hon. Sir Ronald Craufurd Munro Ferguson P.C., G.C.M.G.	18 May, 1914 ...	Still in Office.

The State Executive Government.

The Governor is the representative of the British Sovereign; he is appointed by the King, and his functions and powers are defined by his Commission and the Royal Instructions accompanying it. He assents to Bills as passed by Parliament, or he may withhold his assent pending reference of a Bill to the Imperial Government, bills of certain classes being reserved for Royal Assent. In his Executive capacity, the Governor summons, and acts under advice of the Executive Council, of which the members are Ministers of the Crown controlling administrative departments of the State. The Governor appoints Ministers and members of the Legislative Council, Judges, Justices of the Peace, Commissioners, and other officers, and he may summon, prorogue, or dissolve any Parliament. In the exercise of these functions, he is in general guided by the advice of the Executive Council, but in special circumstances acts at his own discretion, especially with regard to dissolution of Parliament. The prerogative of mercy vested in him is exercised only with the advice of the Executive Council.

The term of office for which the Governor is appointed is five years, and his salary (£5,000 per annum), with certain allowances for his staff, is provided by the Constitution out of the revenues of the State.

SUCCESSION OF GOVERNORS.

The succession of Governors from the foundation of New South Wales to the present time is given in the following statement:—

	From	To
Captain A. Phillip, R.N.	26 Jan., 1788	10 Dec., 1792
Major F. Grose (Lieutenant-Governor)	11 Dec., 1792	12 Dec., 1794
Captain W. Paterson, N.S.W. Corps (Lieutenant-Governor)	13 Dec., 1794	1 Sept., 1795
Captain J. Hunter, R.N.	7 Sept., 1795	27 Sept., 1800
Captain P. G. King, R.N.	28 Sept., 1800	12 Aug., 1806
Captain W. Bligh, R.N.	13 Aug., 1806	26 Jan., 1808
During Governor Bligh's suspension—		
Major G. Johnston, N.S.W. Corps	} 26 Jan., 1808	28 Dec., 1809
Lieutenant-Colonel J. Foveaux, N.S.W. Corps		
Colonel W. Paterson, N.S.W. Corps		
Major-General L. Macquarie	1 Jan., 1810	30 Nov., 1821

SUCCESSION OF GOVERNORS—*continued*.

	From	To
Major-General Sir T. Brisbane, K.C.B.	1 Dec., 1821	30 Nov., 1825
Lieutenant-General Ralph Darling	19 Dec., 1825	21 Oct., 1831
Major-General Sir Richard Bourke, K.C.B.	3 Dec., 1831	5 Dec., 1837
Sir George Gipps, Knt.	24 Feb., 1838	11 July, 1846
Sir Charles A. Fitzroy, K.C.B., K.H.	2 Aug., 1846	17 Jan., 1855
Sir William Thomas Denison, K.C.B.	20 Jan., 1855	22 Jan., 1861
The Right Honorable Sir John Young, K.C.B., G.C.M.G.	22 Mar., 1861	24 Dec., 1867
The Right Honorable the Earl of Belmore, P.C.	8 Jan., 1868	22 Feb., 1872
Sir Hercules George Robert Robinson, G.C.M.G.	3 June, 1872	19 Mar., 1879
The Right Honorable Sir Augustus William Frederick Spencer Loftus, P.C., G.C.B.	4 Aug., 1879	9 Nov., 1885
The Right Honorable Baron Carrington, P.C., G.C.M.G.	12 Dec., 1885	1 Nov., 1890
The Right Honorable the Earl of Jersey, P.C., G.C.M.G.	15 Jan., 1891	28 Feb., 1893
The Right Honorable Sir Robert William Duff, P.C., G.C.M.G.	29 May, 1893	15 Mar., 1895
The Right Honorable Viscount Hampden, G.C.M.G.	21 Nov., 1895	5 Mar., 1899
The Right Honorable Earl Beauchamp, K.C.M.G.	18 May, 1899	30 April, 1901
Admiral Sir H. H. Rawson, R.N., G.C.B.	27 May, 1902	27 May, 1909
The Right Honorable Baron Chelmsford, K.C.M.G.	28 May 1909	11 Mar., 1913
Sir Gerald Strickland, G.C.M.G., Count della Catena	14 Mar., 1913	Still in office

During the absence of the Governor from the State, and in the intervals between the departure of the Governor and the arrival of his successor, the duties are performed by the Chief Justice of the State, acting as Lieutenant-Governor.

PARLIAMENTS.

THE COMMONWEALTH.

The Senate.

A session of the Parliament must be held once at least in every year, with a maximum interval between sessions of twelve months.

The Senate consists of thirty-six members, six of whom are elected for each State, the people in each State voting as in one electorate. The term of service of a Senator is six years; but, in accordance with the Constitution Act, the seats of half the number chosen at an election of a new Senate become vacant at the expiration of three years. An election is held triennially to fill the vacancies then occurring by effluxion of time.

House of Representatives.

The House of Representatives, as far as practicable, contains twice as many members as the Senate, the number elected for the several States being in proportion to the respective populations, but with a specified minimum of five each. There are seventy-five members in this House, the number from New South Wales being twenty-seven.

The House of Representatives is liable to dissolution at the discretion of the Governor-General if the Ministry loses its majority, otherwise it exists for three years. In the event of the failure of the Senate and House of Representatives to agree on the subject of any proposed law, the Governor-General may dissolve both Chambers simultaneously, and if the new Houses disagree, the Governor-General may convene a joint sitting of the members of the Houses to deliberate and vote upon the proposed law, when resolutions, to be effective, must be carried by an absolute majority of all the members. This furnishes the first example within the British Empire of a provision for joint session to overcome a deadlock.

Qualifications and Allowances.

The qualifications of members of the Commonwealth Parliament are the same for both Houses, and are identical with the qualifications of electors. The allowance attaching to the office of member was originally £400 per annum, but was raised by Parliament in 1907 to £600 per annum. The seat of a member becomes vacant if he is absent without leave for two consecutive months of any session.

Franchise.

The qualifications of electors are the same for both Federal Houses. Electors must be adult British subjects, natural-born or naturalised for five years, and resident in Australia for three years.

Aboriginal natives of Australia, Asiatics, Africans, and Pacific Islanders, except natives of New Zealand, are disqualified unless entitled to vote at the election of a State Legislative Assembly.

FEDERAL ELECTIONS.

Senate.

The following table shows the votes polled at the Senate Elections in the State of New South Wales. The last Federal Elections took place on 5th September, 1914, both Houses of the Parliament having been dissolved on 30th July as a result of a deadlock between the Senate and the House of Representatives:—

Election.	Electors Enrolled.		Electors to whom Ballot Papers were issued.		Informal Ballot Papers.	Percentage of Electors Enrolled to whom Ballot Papers were issued.		
	Men.	Women.	Men.	Women.		Men.	Women.	Total.
1901	329,093	...	220,573	...	38,674	67·02	...	67·02
1903	360,285	326,764	189,877	134,487	15,796	52·70	41·16	47·21
1906	392,077	345,522	229,654	151,682	28,016	58·57	43·90	51·70
1910	444,269	390,393	301,167	211,635	24,213	67·79	54·21	61·44
1913	554,028	482,159	405,152	312,703	48,195	73·13	64·85	69·28
1914	576,309	503,820	407,464	294,939	34,984	70·70	58·19	64·85

House of Representatives.

The votes recorded in the State of New South Wales at the elections of members of the House of Representatives were as follow:—

Election.	Electors Enrolled (Contested Divisions only).		Electors to whom Ballot Papers were issued.		Informal Ballot Papers.	Percentage of Electors Enrolled to whom Ballot Papers were issued.		
	Men.	Women.	Men.	Women.		Men.	Women.	Total.
1901	315,962	...	215,105	...	4,070	68·08	...	68·08
1903	303,254	274,763	164,133	118,381	7,834	54·12	43·08	48·88
1906	363,723	314,777	216,150	141,227	11,705	59·43	44·87	52·67
1910	431,702	379,927	294,049	207,868	8,002	68·11	54·71	61·84
1913	554,028	482,159	405,152	312,703	22,262	73·13	64·85	69·28
1914	491,086	429,906	351,172	257,581	14,816	71·51	59·92	66·10

The percentage of voters increased steadily at the elections during the period 1903-1913, but the improvement was not continued in 1914, when the contest was modified in consequence of the outbreak of war in Europe.

FEDERAL MINISTRIES.

In the following statement is shown the various Ministries which have held office since the inauguration of the Commonwealth, also the date of occupancy and duration of each Ministry:—

Ministry.		From—	To—	Duration.
Number.	Name.			
1	Barton	1 Jan., 1901 ...	23 Sept., 1903...	months. days. 32 22
2	Deakin	23 Sept., 1903...	26 April, 1904...	7 3
3	Watson	26 April, 1904...	17 Aug., 1904 ...	3 21
4	Reid-McLean	17 Aug., 1904 ...	4 July, 1905 ...	10 18
5	Deakin	4 July, 1905 ...	12 Nov., 1908 ...	40 8
6	Fisher	12 Nov., 1908 ...	2 June, 1909 ...	6 20
7	Deakin	2 June, 1909 ...	29 April, 1910...	10 27
8	Fisher	29 April, 1910...	20 June, 1913 ...	37 21
9	Cook	20 June, 1913 ...	17 Sept., 1914...	14 27
10	Fisher	17 Sept., 1914...	27 Oct., 1915 ...	13 10
11	Hughes	27 Oct., 1915 ...	Still in Office..	

FEDERAL REFERENDA.

The Referendum (Constitution Alterations) Act, 1906-10, provides the necessary machinery for the submission to the electors of any proposed law for the alteration of the Constitution.

The following statement shows the votes recorded in the State of New South Wales and in the Commonwealth at the various referenda which have been taken in relation to the Federal Constitution:—

Date.	Referendum.	State of New South Wales.			Commonwealth of Australia.			
		For.	Against.	Majority	For.	Against.	Result.	Majority.
1898	Federation	71,595	66,227	5,367	219,712	108,365	.....	111,349
1899	Federation	107,420	82,741	24,679	422,788	161,077	A	261,711
1906	Constitution Alteration (Senate Elections) ...	286,888	55,261	231,627	774,011	162,470	A	611,541
1910	Financial Agreement ...	227,650	253,107	25,457	645,514	670,838	R	25,324
1910	State Debts	159,275	318,412	159,137	715,053	586,271	A	128,782
1911	Legislative Powers ...	135,968	240,605	104,637	483,356	742,704	R	259,348
1911	Monopolies	138,237	238,177	99,940	488,668	736,392	R	247,724
1913	Trade and Commerce ...	317,848	359,418	41,570	958,419	982,615	R	24,196
1913	Corporations	317,663	361,255	43,587	960,711	986,824	R	26,113
1913	Industrial Matters ...	318,622	361,044	42,422	961,601	987,611	R	26,010
1913	Railway Disputes ...	316,928	361,743	44,815	956,358	990,046	R	33,688
1913	Trusts	319,150	358,155	39,005	967,331	975,943	R	8,612
1913	Nationalisation of Monopolies	301,192	341,724	40,532	917,165	941,947	R	24,782

A. Accepted. R. Rejected.

In 1898 the question of federation was put to the people in the States of New South Wales, Victoria, South Australia, and Tasmania. In the three last-named it was passed; but in New South Wales although it had a majority it failed to obtain the minimum number of 80,000 votes in the affirmative as required by the Enabling Act of 1897. At the second referendum for federation, in 1899, the vote was taken in Queensland, in addition to the States concerned in the 1898 referendum, and the figures for Australia shown above included the votes in Western Australia, where the referendum did not take place until 1900.

The referendum in 1906 related to the extension to 30th June, 1910, of the services of Senators whose places would have become vacant in December, 1909, and also that the term of service of a Senator should begin on the first day of July. The fact of this referendum being taken on the same day as the Commonwealth General Election no doubt accounts for the large number of votes recorded.

Two proposals for altering the Constitution, referred in 1910, relate to financial arrangements between the States and the Commonwealth; the one, to give effect to an agreement regarding the amount of revenue which should be returned to the States, was rejected, and the other, to enable the Commonwealth to take over all the debts of the States, was passed by a majority in the Commonwealth as a whole, and in all the States except New South Wales. Previous to this alteration the Commonwealth was empowered to take over only such debts as had been incurred prior to federation.

The referenda of 1911 were for the purpose of (1) extending the legislative powers of the Federal Government regarding trade and commerce, corporations, industrial matters, and trusts and monopolies; and (2) to empower the Commonwealth to take control of industries subject to monopolies. These proposals were rejected in each State except Western Australia, and consequently in the Commonwealth as a whole.

At the general elections in 1913, these proposed alterations were submitted again to the electors with an additional proposal to enable the Commonwealth to legislate regarding conditions of employment and the settlement of disputes relating thereto in the State railway services. All the proposals were rejected, as the majority of voters in three States only—Queensland, South Australia, and Western Australia—approved of the alterations, the majority in the other States, and in the Commonwealth as a whole, being against the proposals. In 1915, Bills were introduced into the Commonwealth Parliament embodying similar alterations, and arrangements were made to submit the proposals to the electors. Subsequently the referendum was postponed during the currency of the war in consequence of an agreement between the State Premiers and the Prime Minister of the Commonwealth, by which the former agreed to bring forward in their respective Parliaments legislation for referring to the Commonwealth Parliament, for the term of the war and twelve months after the conclusion of peace, the powers embodied in the proposed alterations. The Commonwealth Powers (War) Act was passed in the New South Wales Parliament in December, 1915. At the Military Service Referendum in 1916 the majority voted against a proposal that the Government be empowered to compel citizens to serve with the military forces outside the Commonwealth.

SEAT OF FEDERAL GOVERNMENT—ORDINANCE.

The agreement under section 125 of the Commonwealth Constitution Act, between the State of New South Wales and the Commonwealth, for the surrender and acceptance of territory in the Canberra district for the seat of Federal Government has been ratified, and an ordinance issued on 22nd December, 1910, for the Provisional Government of the Territory. All laws hitherto in force in the Territory (except those imposing duties on estates of deceased persons) will remain in force, and continue to be administered by the State authorities. All revenue, except Public Instruction fees, will belong to the Commonwealth. The authority of State magistrates, gaolers, and police will continue, and all offenders will be tried in the Courts of the State. Licenses to sell intoxicating liquors will not be granted, and existing licenses may be renewed for the same premises only.

THE STATE.

The Legislative Council.

Under the Constitution Act, 1902, the Governor may summon to the Legislative Council any person he thinks fit, provided such person is of the full age of 21 years, and is a natural-born or naturalised subject of His

Majesty in Great Britain or in New South Wales; naturalised British subjects of enemy origin are excluded from membership of the Council during the present war, in terms of the Naturalised Subjects Franchise Act, 1916. At least four-fifths of the members summoned to this Council must be persons not holding any office of emolument under the Crown. The members have a life tenure of office, subject to certain qualifications, but are not entitled to remuneration for their services; as a matter of privilege, they are allowed to travel free on the State railways and tramways. The presence of one-fourth of the members, exclusive of the President, is necessary to form a quorum for the despatch of business. The Constitution Act contains no proviso as to the number of members; in December, 1916, there were 55. The President receives an annual salary of £750, and the Chairman of Committees £470.

The Legislative Assembly.

The Legislative Assembly consists of ninety elected members, each being an adult male British subject, and entitled to a vote at the Parliamentary elections. Members of the Federal Legislature and of the Legislative Council, persons holding non-political offices of profit under the Crown, except in the navy or army, and, during the period of the present war and for six months thereafter, naturalised British subjects of enemy origin, are disqualified for membership. Under the provisions of the Constitution Amendment Act of 1916 any officer of the public service of New South Wales may be nominated and elected to the Legislative Assembly, but if elected must forthwith resign his position in the service.

Each member receives the sum of £500 per annum by way of reimbursement for expenses incurred in the discharge of Parliamentary duties, is allowed to travel free on the State railways and tramways, and has free transmission of correspondence.

The seat of a member becomes vacant if the member be absent without permission for a whole session of the Legislature, becomes bankrupt, a subject of a foreign power, or convicted of a crime. The Speaker of the Legislative Assembly receives a salary of £1,000 per annum, and the Chairman of Committees £740 per annum. The Leader of the Opposition receives £250 per annum in addition to his remuneration as a Member of Parliament.

Parliament may be dissolved at the discretion of the Governor, if the Government is defeated in the Assembly, otherwise it exists for three years; before the passing of the Triennial Parliaments Act, 1874, the limit of duration was five years.

The Legislative Assembly Continuance Act, 1916, which received assent in November, 1916, extended the duration of the present Legislative Assembly for one year, and provision was made for the election of a new Parliamentary Standing Committee on Public Works to continue in office until the present Parliament expires.

The Constitution Act makes no distinction between the powers and privileges of the two Houses of Parliament, but it is tacitly agreed that the procedure in each House shall be conducted according to that of its prototype in the Imperial Parliament.

STATE ELECTIONS.

The first Legislative Assembly of New South Wales met in 1856, and consisted of 54 members elected under the Constitution Act. Votes were allowed to all male adult British subjects, who, at the time of registration of electors and for six months previously to that date, owned freehold estate valued at £100, or occupied building or lodging, or land under lease for three years, valued at £10 per annum. Holders of Government pastoral licenses and

persons who had a yearly salary of £100, or paid £40 per annum for board and lodging, were also entitled to vote. Electors were allowed a vote in each electorate in which they possessed the necessary qualifications.

In 1859 the membership of the Assembly was increased to 72, and the franchise was given to every male adult British subject who for six months previously to the collection of the rolls had resided in the district and held property of the clear value of £100 or annual value of £10, or occupied a building valued at £10 per annum, or held Crown lease or license for pastoral purposes. Holders of miners' rights were allowed to vote in "gold-fields" electorates. Officers of military or police services were disqualified, as well as persons in receipt of public charity.

Under the Electoral Act, 1880, by which 108 members were elected for 72 electorates, provision was made for automatically increased representation, so that the number of members in 1891 had increased to 141, elected for 74 districts.

Under the Parliamentary Electorates and Elections Act, 1893, an important change was made in the system of Parliamentary representation, the State being then divided into 125 electorates, each represented by one member. The franchise was remodelled by the introduction of universal manhood suffrage, and the rights of citizenship were equalised by the principle of allowing each elector to vote in one electorate only. A vote was given to every male adult who had resided continuously for one year in the State, provided that he was a British subject and became enrolled in the electoral district in which he had resided for three months prior to the election. The disqualification of the police was removed in 1896, and in 1902 the franchise was extended to women, thus establishing adult suffrage.

Under the Electorates Redistribution Act, 1904, the number of electorates and of representatives elected was reduced to 90, which number was determined by referendum of electors, to whom the question of reduction was submitted by an Act passed in 1903.

The Parliamentary Elections Act, 1911, provided for a residential qualification of six months in the Commonwealth, three months in the State, and one month in the electoral district, and for the extension of the franchise to the military and naval services. The hours of polling were specified as from 8 a.m. to 7 p.m., the polling-day being a public holiday from 12 o'clock noon, and, under the Liquor Amendment Act, 1905, hotels were closed during the hours of polling. The introduction of the absent voter principle enabled electors absent from their districts to record a vote for the electorate for which they were enrolled at any polling-place within the State, on making a declaration. Provision was made also for an annual collection and revision of rolls, the occupiers of dwelling-houses being required to prepare schedules showing the persons living in the houses.

The Parliamentary Elections (Second Ballot) Act, 1910, provided that the elected candidate must receive an absolute majority—that is, more than half the number of valid votes recorded. If, as a result of the ballot, a candidate has not received an absolute majority a second ballot must be taken between the first two candidates on the list. This principle was introduced at the general election in October, 1910, and second ballots were taken in three electorates; in 1913 second ballots were held in twelve electorates.

The enactments relating to Parliamentary elections were consolidated by the Parliamentary Electorates and Elections Act of 1912.

Under the provisions of the Naturalised Subjects Franchise Act, 1916, naturalised British subjects of enemy origin are not permitted to vote at an election during the continuance of the present war, and for a period of six months after its conclusion.

The following table shows the voting at the elections held in New South Wales since plural voting was abolished; in districts in which second ballots were taken the votes recorded at the first ballots have been excluded:—

Year of Election.	Voters on Roll.	Electors per Member.	Total Members returned.	Members unopposed.	Contested Electorates.					
					Electors on Roll.	Votes recorded.	Percentage of Votes recorded.	Informal Votes.	Percentage of Informal Votes.	
1894	298,817	2,390	125	1	254,105	204,246	80.38	3,310	1.62	
1895	267,458	2,139	125	8	238,233	153,034	64.24	1,354	.88	
1898	324,339	2,595	125	3	294,481	178,717	60.69	1,638	.92	
1901	346,184	2,769	125	13	270,861	195,359	72.13	1,534	.79	
1904 { Males ...	363,062	7,661	90	2	304,396	226,057	74.26	3,973	.59	
{ Females ...	326,428				262,433	174,538	66.51			
1907 { Males ...	392,845	8,288	90	5	370,715	267,801	72.10	13,543	2.87	
{ Females ...	353,055				336,680	204,650	60.78			
1910 { Males ...	458,626	9,641	90	3	444,242	322,199	72.53	10,393	1.78	
{ Females ...	409,069				400,139	262,154	65.52			
1913 { Males ...	553,633	11,533	90	3	534,379	385,838	72.20	14,439	2.10	
{ Females ...	484,366				468,437	302,389	64.55			

Making due allowance for obstacles to voting, especially in sparsely-settled districts, the figures quoted above indicate abstention on the part of a large percentage of the electors, and particularly in the case of the women. At the first election after enfranchisement, 66.5 per cent. of women recorded their votes; in 1907, 60.8 per cent., and at the elections of 1910 and 1913 about 65 per cent. voted, so that 35 per cent. failed to take advantage of their franchise. In the case of men, the highest proportion of votes, 80.4 per cent., was recorded at the first election shown in the table above, when popular interest was excited by a strenuous contest on the question of fiscal reform; at the next two elections there was no definite issue at stake, as negotiations were in progress with the other States for federation. At subsequent elections the percentage of votes increased; the proportion at the last three elections being about 72 per cent. of men enrolled; but although facilities for voting had been greatly improved, there were still more than one-fourth who did not vote.

The number of informal votes was high at the election in 1907, being 3 per cent. of the total votes recorded; at the 1910 election a change made in the method of marking the ballot-papers no doubt accounted for the percentage of informal votes being reduced to 1.78 per cent. The percentage rose to 2.1 in 1913; this was the first election at which the absent voting was in operation, and many informalities occurred through the non-compliance by election-officers with the special conditions regarding the issue of ballot-papers to electors outside the districts in which they were enrolled. Exclusive of the figures relating to the first ballots in electorates where second ballots were held, 22,384 absent votes were recorded, 5,893 being informal.

DISTRIBUTION OF ELECTORATES.

After federation of the Australian States the question of reducing the membership of the Legislative Assembly of New South Wales was submitted to a referendum of the electors in 1904, and, as a result, the

number of representatives was reduced to 90. The following table shows the average number of persons represented by each member of the Assembly, and the proportion of the population enrolled on the electoral lists at various dates on which the membership or franchise has been altered since the opening of the first Parliament and at each year of election since 1901:—

Year of Election.	Number of Members.	Population per Member.	Percentage of Population Enrolled.
1856	54	5,200	15·8
1858	72	4,500	22·3
1880	108	6,900	25·2
1885	122	7,800	24·5
1891	141	8,100	26·7
1894	125	9,800	24·3
1901	125	10,900	25·3
1904	90	16,100	39·0
1907	90	17,300	45·6
1910	90	18,200	51·5
1913	90	20,400	56·6

The number of distinct electors cannot be ascertained for any period prior to the year 1894, and the figures in the last column have been calculated on the total number of votes to which the electors on the roll were entitled; they are, therefore, somewhat in excess of the actual proportions. At the census of 1901 the percentage of adult males in the total population was about 28, and of adults, males and females, 51·7. At the election in 1901 the proportion of the population enrolled was 25 per cent., and after the Women's Franchise Act, 1902, was passed it rose to 39 per cent. In 1910 the proportion was 52 per cent.; while at the Census date, 2nd April, 1911, the adult population represented 55·8 per cent. of the total. In December, 1913, the electors on the roll represented 56·6 per cent. of the total population.

A list of the Parliaments since Responsible Government was established is shown below:—

Number of Parliament.	Opened.		Dissolved.		Duration.	No. of Sessions.
					yrs. mths. dys.	
1	22 May	1856	19 Dec.	1857	1 6 28	2
2	23 March	1858	11 April	1859	1 0 19	2
3	30 Aug.	1859	10 Nov.	1860	1 2 11	2
4	10 Jan.	1861	10 Nov.	1864	3 10 0	5
5	24 Jan.	1865	15 Nov.	1869	4 9 22	6
6	27 Jan.	1870	3 Feb.	1872	2 0 7	3
7	30 April	1872	28 Nov.	1874	2 6 28	4
8	27 Jan.	1875	12 Oct.	1877	2 8 16	3
9	27 Nov.	1877	9 Nov.	1880	2 11 12	3
10	15 Dec.	1880	23 Nov.	1882	1 11 8	3
11	3 Jan.	1883	7 Oct.	1885	2 9 4	6
12	17 Nov.	1885	26 Jan.	1887	1 2 9	2
13	8 March	1887	19 Jan.	1889	1 10 11	3
14	27 Feb.	1889	6 June	1891	2 3 7	4
15	14 July	1891	25 June	1894	2 11 11	4
16	7 Aug.	1894	5 July	1895	0 10 29	1
17	13 Aug.	1895	8 July	1898	2 10 26	4
18	16 Aug.	1898	11 June	1901	2 9 26	5
19	23 July	1901	16 July	1904	2 11 24	4
20	23 Aug.	1904	12 July	1907	2 10 20	4
21	2 Oct.	1907	14 Sept.	1910	2 11 12	5
22	15 Nov.	1910	6 Nov.	1913	2 11 21	5
23	23 Dec.	1913	Still sitting.		.....	.....

STATE MINISTRIES.

The various Ministries which have held office since the establishment of Responsible Government, together with the duration in office of each, are shown below:—

Ministry.		From—	To—	Duration.	
Number.	Name.			months.	days.
1	Donaldson	6 June 1856	25 Aug. 1856	2	20
2	Cowper	26 Aug. 1856	2 Oct. 1856	1	8
3	Parker	3 Oct. 1856	6 Sept. 1857	11	4
4	Cowper	7 Sept. 1857	26 Oct. 1859	25	20
5	Forster	27 Oct. 1859	8 Mar. 1860	4	13
6	Robertson	9 Mar. 1860	9 Jan. 1861	10	1
7	Cowper	10 Jan. 1861	15 Oct. 1863	33	6
8	Martin	16 Oct. 1863	2 Feb. 1865	15	18
9	Cowper	3 Feb. 1865	21 Jan. 1866	11	19
10	Martin	22 Jan. 1866	26 Oct. 1868	33	5
11	Robertson	27 Oct. 1868	12 Jan. 1870	14	17
12	Cowper	13 Jan. 1870	15 Dec. 1870	11	3
13	Martin	16 Dec. 1870	13 May 1872	16	29
14	Parkes	14 May 1872	8 Feb. 1875	32	26
15	Robertson	9 Feb. 1875	21 Mar. 1877	25	13
16	Parkes	22 Mar. 1877	16 Aug. 1877	4	26
17	Robertson	17 Aug. 1877	17 Dec. 1877	4	1
18	Farnell	18 Dec. 1877	20 Dec. 1878	12	3
19	Parkes	21 Dec. 1878	4 Jan. 1883	48	15
20	Stuart	5 Jan. 1883	6 Oct. 1885	33	2
21	Dibbs	7 Oct. 1885	21 Dec. 1885	2	15
22	Robertson	22 Dec. 1885	25 Feb. 1886	2	4
23	Jennings	26 Feb. 1886	19 Jan. 1887	10	22
24	Parkes	20 Jan. 1887	16 Jan. 1889	23	28
25	Dibbs	17 Jan. 1889	7 Mar. 1889	1	19
26	Parkes	8 Mar. 1889	22 Oct. 1891	31	15
27	Dibbs	23 Oct. 1891	2 Aug. 1894	33	11
28	Reid	3 Aug. 1894	13 Sept. 1899	61	11
29	Lyne	14 Sept. 1899	27 Mar. 1901	18	14
30	See	28 Mar. 1901	14 June 1904	38	18
31	Waddell	15 June 1904	29 Aug. 1904	2	15
32	Carruthers	30 Aug. 1904	1 Oct. 1907	37	3
33	Wade	2 Oct. 1907	20 Oct. 1910	36	19
34	McGowen	21 Oct. 1910	29 June 1913	32	9
35	Holman	30 June, 1913	Still in office.	.....

The Holman Ministry, which is in office, consists of the following members:—

Premier and Colonial Treasurer	... ..	Hon. W. A. HOLMAN, M.L.A.
Colonial Secretary	... ..	Hon. G. W. FULLER, M.L.A.
Attorney-General	... ..	Hon. D. R. HALL, M.L.A.
Vice-President of the Executive Council and Minister for Health and Local Government.	... ..	Hon. J. D. FITZGERALD, M.L.C.
Solicitor-General and Minister of Justice	... ..	Hon. J. GARLAND, K.C., M.L.C.
Secretary for Lands and Forests	... ..	Hon. W. G. ASHFORD, M.L.A.
Secretary for Public Works & Minister for Railways	... ..	Hon. R. T. BALL, M.L.A.
Secretary for Mines and Assistant Treasurer	... ..	Hon. J. C. L. FITZPATRICK, M.L.A.
Minister for Agriculture	... ..	Hon. W. C. GRAHAME, M.L.A.
Minister for Labour and Industry	... ..	Hon. G. S. BEEBY, M.L.C.
Minister for Public Instruction	... ..	Hon. A. G. F. JAMES, M.L.A.
Member of the Executive Council (without portfolio)	... ..	Hon. D. STOREY, M.L.A.

Under the provisions of the Ministers' Salaries Act of 1908, the following annual payments from the Consolidated Revenue Fund are authorised:—

The Premier in addition to his salary as Minister of the Crown...	£ 500
The Attorney-General...	1,520
Six Ministers of the Crown, £1,370 each	8,220
The Vice-President of the Executive Council	800
Total...	£11,040

The Constitution Act of 1902 authorises the payment of £1,000 per annum as salary for the office of Solicitor-General.

COST OF PARLIAMENT—NEW SOUTH WALES.

The following statement shows the cost of Parliamentary Government in New South Wales during the five financial years 1912–1916 :—

Head of Expenditure.	1912.	1913.	1914.	1915.	1916.
Governor—	£	£	£	£	£
Governor's salary	5,000	5,000	5,000	5,000	5,000
Official Secretary	375	400	400	400	400
Private Secretary	350	350	350	350	350
Aide-de-Camp	350	350	350	350	350
Orderlies	730	803	883	912	796
Additions, Repairs and maintenance of Residences	1,144	1,180	1,266	4,845	1,653
Miscellaneous	1,114	1,263	2,285	1,053	1,547
Total	£ 9,063	9,346	10,534	12,910	10,096
Executive Council—					
Salaries of Officers	257	108	...	...	...
Other Expenses	25	...	...	...	...
Total	£ 282	108	...	...	...
Ministry—					
Salaries of Ministers	10,969	11,040	11,040	11,038	11,040
Other expenses	1,471	2,777	1,150	1,219	1,298
Total	£ 12,440	13,817	12,190	12,257	12,338
Parliament—					
The Legislative Council—					
Railway passes	£ 5,472	5,855	5,883	5,903	6,070
The Legislative Assembly—					
Allowances to Members	24,205	38,887	37,354	40,541	40,335
Railway passes	11,006	9,699	10,332	10,723	10,357
Other expenses (Postage Stamps, &c.)	1,651	1,816	1,732	2,539	1,770
	£ 36,862	50,402	49,468	53,803	52,492
Miscellaneous—					
Fees and expenses of Parliamentary Standing Committee on Public Works	6,095	5,980	3,310	6,894	6,225
Salaries of Officers and Staff	21,263	21,882	22,652	22,073	21,454
Printing	7,398	10,823	12,005	9,646	14,967
Manusard (including Salaries)	5,958	7,378	6,775	6,540	7,121
Library	670	684	567	675	677
Water, power, light, and heat	766	682	561	740	575
Postage, stores, and stationery	1,174	696	1,002	340	947
Refreshment Rooms	299	106	208	329	
Miscellaneous	694	2,005	2,461	2,756	3,339
	£ 44,317	50,236	49,544	49,993	55,305
Total Parliament	£ 86,651	106,493	104,895	109,999	113,867
Electoral Office and Elections—					
Salaries	918	995	813	875	1,123
Elections, Printing of Electoral Rolls, expenses of Electoral Registrars, and contingencies	23,989	34,867	53,040	24,112	*56,491
Total	£ 24,907	35,862	53,853	24,987	57,614
Royal Commissions and Select Committees					
Fees, &c.	6,721	3,492	4,578	4,231	
Miscellaneous	4,197	2,170	840	1,275	4,114
Total	£ 10,918	5,662	5,418	5,506	4,114
GRAND TOTAL	£ 144,261	171,288	186,890	165,359	198,029

* Includes £30,244 for Liquor Referendum.

ACTS OF PARLIAMENT, 1915-16.

The Public Acts passed by the Parliament of New South Wales during the Sessions of 1915-16 were as follow :—

1915.

- | | |
|---|--|
| 1. White Phosphorus Matches Prohibition. | 34. Loans (Interest). |
| 2. Aborigines Protection Amending. | 35. Local Government (Amendment). |
| 3. Randwick Loan Act. | 36. State Coal Mines (Amendment). |
| 4. Notification of Births. | 37. Sydney Corporation (Amendment). |
| 5. New castle District Abattoir and Sale-yards. | 38. Grafton and South Grafton Water Supply Administration. |
| 6. Meat Supply for Imperial uses. | 39. Appropriation. |
| 7. Public Health (Amendment). | 40. Public Service (Temporary Officers). |
| 8. River Murray Waters. | 41. Auctioneers' Licensing (Amendment). |
| 9. Seat of Government Surrender. | 42. Broken Hill Trades Hall Site Extension. |
| 10. Weights and Measures. | 43. Broken Hill Water Supply Administration. |
| 11. Motor Traffic Amendment. | 44. Mirool to Hillston Railway. |
| 12. Crown Lands Purchases and Leases Validation. | 45. Dairy Industry. |
| 13. Newcastle Pasturage Reserve (Railways) Resumption. | 46. Barmedman to Rankin's Springs Railway. |
| 14. Loan (Railways). | 47. Gilgandra to Collie Railway. |
| 15. Inflammable Liquid. | 48. Canowindra to Eugowra Railway. |
| 16. Goulburn Sewerage. | 49. Roslyn to Taralga Railway. |
| 17. Wardell-road to Darling Island Railway Deviation (Rozelle Bay to Pymont). | 50. Craboon to Coolah Railway. |
| 18. Supply (No. 1.) | 51. Grafton to South Grafton Railway. |
| 19. Bowenfels to Diwana Railway Deviation. | 52. Tamworth Water Supply. |
| 20. Maitland Hospital (Isolation Wards) Enabling. | 53. Glen Innes Water Supply. |
| 21. Illawarra Railway Deviation (Otford to Clifton). | 54. Orange Water Supply. |
| 22. Commonwealth War Loan (Investment Enabling). | 55. Inverell Water Supply. |
| 23. Stock Diseases (Tick) Amendment. | 56. Loan. |
| 24. Enemy Contracts Annulment. | 57. Finance (Taxation). |
| 25. Prince Alfred Hospital (Government Representation). | 58. Apprentices (Amendment). |
| 26. Supply (No. 2.) | 59. Junee Water Supply Administration. |
| 27. Newcastle Hospital. | 60. Finance Taxation Management. |
| 28. Wheat Acquisition (Amendment). | 61. Sydney Corporation (Election of Mayor). |
| 29. City and Suburban Electric Railways. | 62. Probate Duties War Exemption. |
| 30. Munitions. | 63. Commonwealth Loans (Investment Enabling). |
| 31. Trustees Delegation of Powers. | 64. Early Closing (Amendment). |
| 32. Wallsend Mining District Hospital. | 65. Commonwealth Powers (War). |
| 33. Medical Practitioners (Amendment). | 66. Fair Rents. |
| | 67. Clerical Workers (Repeal). |
| | 68. Newcastle District Abattoir and Saleyards Further Amendment. |
| | 69. Meat Industry. |

1916.

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|--|--|
| 1. Height of Buildings (Amendment). | 14. Naturalised Subjects Franchise. |
| 2. Valuation of Land. | 15. Dentists (Amendment). |
| 3. Honeysuckle Point and Henty Cemeteries. | 16. Illawarra Cottage Hospital. |
| 4. Darvall-street Bridge Removal. | 17. Trades Hall and Literary Institute Amendment. |
| 5. Oaths (Amendment). | 18. The Cathedral Close Amending. |
| 6. Public Works (Costs). | 19. Sunday Trading (Refreshment Rooms) |
| 7. Department of Agriculture Building. | 20. Hunter District Water Supply (Chester Dam). |
| 8. Wardell Road to Darling Island Railway Deviation (Tunnels). | 21. Returned Soldiers' Settlement. |
| 9. Railway Crossings Act. | 22. Irrigation (Amendment). |
| 10. Liquor Referendum. | 23. Port Kembla Wharfrage and Tonnage Rates Amendment. |
| 11. Eight Hours. | 24. Apiaries. |
| 12. Sydney Corporation (Amendment). | 25. River Murray Waters (Amendment). |
| 13. Metropolitan Water and Sewerage Amendment. | |

1916.

26. Government Savings Bank Amendment.
27. Yass Water Supply.
28. Superannuation.
29. Crown Lands Amendment.
30. Supply.
31. Bega Loan.
32. Supply (No. 2.)
33. Wine Adulteration.
34. Vegetable Creek Hospital.
35. Petersham and Bankstown Road Closing.
36. Waratah Municipal Gas Loan Validation.
37. Weights and Measures (Amendment).
38. Balmain Road Closing.
39. Sydney Water Supply (Cordeaux River Dam).
40. Sales by Trustees Confirmation.
41. Testator's Family Maintenance and Guardianship of Infants.
42. Canberra-street, Canterbury, Diversion.
43. Government Railways (Appeals).
44. Sydney Water Supply (Auxiliary).
45. Constitution, (Public Service) Amendment.
46. Miners' Accident Relief (Repeal).
47. Grain Elevator.
48. Water (Amendment).
49. Bowral Water Supply.
50. City and Suburban Electric Railways (Amendment).
51. Public Instruction (Amendment).
52. Supply Act (No. 3).
53. Closer Settlement (Amendment).
54. Dentists (Further Amendment).
55. Forestry.
56. Friendly Societies (Amendment).
57. Rural Tenants' Improvements.
58. Electric Lighting and Gas Emergency.
59. Molong to Dubbo Railway.
60. Sydney Corporation Amendment (Costs).
61. Legislative Assembly Continuance.
62. Sydney Harbour Tonnage Rates.
63. Henty to Billabong Creek Railway.
64. Motor Vehicle (Taxation).
65. Motor Tax Management (Amendment).
66. Crown Lands Further Amendment.
67. Income Tax.
68. Liquor (Amendment).
69. Government Railways (Amendment).
70. Government Railways (Further Amendment).
71. Workmen's Compensation.
72. Appropriation.
73. Loan.
74. Mining Leases Cancellation (Validation).
75. Totalizator.
76. Local Government (Amending).
77. Special Deposits (Industrial Undertakings, Amendment).
78. University (Amendment).
79. Women's College Endowment.
80. Crimes Prevention.
81. Industrial Arbitration (Amendment).
82. Destitute Children's Society (Vesting).
83. Forestry (Temporary Commissioners).

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

As soon as practicable after the commencement of the first session of every Parliament, a joint committee of members of the Legislative Council and Legislative Assembly, called the Parliamentary Standing Committee on Public Works, is appointed by ballot. Three members of this Committee must be members of the Legislative Council, and four members of the Legislative Assembly.

The Committee has power, under the Public Works Act, to prosecute inquiries, to summons witnesses, and to compel the production of books, &c.

The Chairman receives by way of remuneration £3 3s. for each sitting of the Committee, and every other member £2 2s.

Proposals for public works of an estimated cost exceeding £20,000 must be submitted and explained by a Minister in the Legislative Assembly, and then referred to the Public Works Committee for report.

The record of inquiries made by the several Committees regarding proposed public works, from the date of the first sitting of the first Committee, on 27th August, 1888, to 9th June, 1916, shows that the total expenditure proposed by the Government was £71,285,785, and the expenditure recommended by the Committee was £42,207,649.

ADMINISTRATIVE GOVERNMENT OF THE STATE.

Functions.

In New South Wales the various Departments of the Public Service, controlled by Ministers of the Government, as previously enumerated, are charged with the administration of Acts of Parliament, the conduct of public business, and the performance of functions incidental to the government of the State. Following is a summary of the general administrative arrangements of the Departments :—

Premier's Department :—

Departmental business connected with the State Governor's Office establishments and with the two Houses of Parliament (including official publication of Debates). Foreign correspondence, correspondence with—
(a) the Commonwealth, State, and Colonial Governments, (b) the President of the Legislative Council and the Speaker of the Legislative Assembly, (c) Foreign Consuls; the State Executive Council; the Agency-General in London; the Trade Commissioner at San Francisco; the Immigration and Tourist Bureau, and the State War Council.

The Colonial Treasurer :—

The management of the Consolidated Revenue, Loan, and other public funds; the receipt of collections by accounting officers and of taxes, imposts, and other revenues of the Crown; payment of claims against the Crown; public banking arrangements; management and regulation of public debt; floating of loans; sale, inscription, and management of stocks on Sydney Register; periodical inspection of accounts of official assignees, and the Registrar of Bankruptcy and of the Public Trustee; the exercise of powers conferred upon him by the Sydney Harbour Trust Act, 1900, the Housing Act, 1912, the Government Savings Bank Acts, Stamp Duties Act, Poisons Acts, Land and Income Tax Acts, Navigation Act, Explosives Act, Inflammable Liquid Act and the Pharmacy Act; the business of public printing; the publication of the *Government Gazette*; supervision of the engagement and discharge of seamen; registration of guarantees under Pure Food Act, 1908; payment of pensions and allowances for Imperial Government, and for Crown and other Colonies; the purchase and distribution of stores, stationery, and furniture for the public service; the Colonial Treasurer's Fire Insurance Fund, and the issue of the following licenses :—Auctioneers', publicans', booth, billiard, bagatelle, brewers', spirit merchants', packet, tobacco, &c., colonial wine, railway refreshment room, oyster vendors', fishermen's, and fishing boat; and correspondence with the banking institutions transacting business on behalf of the Government and with all Government Departments and officers on the subject of collecting, expending, and accounting for public revenues; payment of State Pensions to partially and totally incapacitated soldiers; administration of Finance Taxation Act relating to taxation of racing clubs, associations and bookmakers.

Chief Secretary :—

Public Seal and registration of commissions thereunder; appointment of magistrates; business relating to ecclesiastical establishments; correspondence with the heads of the several churches; protection of aborigines; Police Department; Department of Audit; Board of Fire Commissioners; Bureau of Statistics; Registry of Friendly Societies and Trade Unions; Parliamentary elections; State Fisheries; State Trawling Industry; Departmental business connected with Lord Howe Island Board of Control; licensing of racetracks; licensing of places of public entertainment; and all matters not expressly assigned to any other Minister.

The Attorney-General:—

Business relating to the office of Chief Justice and the Puisne Judges, the Industrial Court and District Courts, the office of Chairman of Quarter Sessions, and the appointment of sittings of the Supreme Court at circuit towns, and District Courts and Courts of Quarter Sessions; advising the Government on all legal questions; the offices of the Crown Solicitor, Parliamentary Draftsman, Crown Prosecutors, and Clerk of the Peace; Statute Law Consolidation; Court Reporting; the Public Service Board; the Necessary Commodities Control Commission; and correspondence with other Ministers on questions requiring legal opinion, and with Judges with regard to matters coming under Ministerial control.

Public Health:—

Director-General of Public Health Office; Master-in-Lunacy's Office; Inspector-General of the Insane; hospitals; licensing of private hospitals, &c.; registration of medical practitioners; appointment of Government medical officers and public vaccinators; Dental Board; licensing of institutions for the care and treatment of inebriates; State charities; charitable institutions aided from Consolidated Revenue; Meat Industry Board and State Abattoirs; closed cemeteries and exhumation of bodies for the purpose of re-interment, &c.

Solicitor-General and Minister of Justice:—

Business relating to the Equity, Bankruptcy, Sheriff's, Probate, Public Trustee, and Intestate Estates, and Registrar-General's offices; Courts of Petty Sessions; Police Magistrates, Clerks of Petty Sessions, and Registrars of District Courts; Coroners; Gaol and penal establishments (exclusive of Industrial or Reformatory Schools); Fair Rents' Court; matters relating to the commutation or remission of sentences, or of fines, and forfeitures, and estreats; control of Court-houses.

Secretary for Lands and Forests:—

The administration of all Acts relating to the alienation, occupation (otherwise than for mining), and management of Crown lands including lands within State Forests and Timber Reserves as Minister for Forests under the Forestry Act), and of lands held under the Church and School Lands Acts; the compilation, lithography, publication, and sale of maps of State, county, parish, or town, and environs; survey of public lands for purposes of alienation, lease (other than mineral), or dedication for public purposes; topographical surveys for purposes of compilation of maps; Land Appeal Court; Local Land Boards; Closer Settlement Acts; Closer Settlement Advisory Boards; examination of applicants for license to survey Crown lands; proclamation of towns and villages; reserves, dedications, and resumptions for public purposes; recreation reserves; subsidies for parks and cemeteries; alignment of streets; brickmaking and quarry licenses; trespasses on Crown lands; Forestry Act; homes for war widows or totally incapacitated soldiers with dependents; homestead farms, &c.; Kuringai Chase; National Park; Labour Settlement Act; Necropolis Act; Newcastle Pasturage Reserve Act; Pasturage Protection Act; distribution of rabbit-proof wire-netting and fencing; Prickly Pear Act; Public Gates Act; Public Parks Act; Public Roads Act; Public Trusts Act; Returned Soldiers Settlement Act; Rural Tenants Improvements Act; Royal Agricultural Society Act; Western Lands Act.

Secretary for Public Works and Minister for Railways:—**Public Works—**

The construction of works, water supply, sewerage, and drainage; the construction and repair of wharves, basins, and breakwaters, and the dredging and improvement of harbours and rivers (except those vested in the Sydney Harbour Trust), and of lighthouses and signal stations, and, when requested by the Commonwealth Authorities, of buildings, &c., in the State of New South Wales for the Commonwealth Government; the construction of works of drainage and flood prevention; the construction and maintenance of Government docks, engineering establishments, and roads and bridges not controlled by local authorities; the conduct and management of State industrial undertakings; the management of public watering places and of ferries not controlled by local authorities; the erection, repair, and maintenance of public buildings; the resumption of land for public purposes; the detail survey of Sydney and suburbs, and the administration of all Acts authorising the carrying out of public works.

Minister for Railways—

Exercises in regard to State railways and tramways the powers conferred upon him by the Government Railways Act, 1912, as amended by the Government Railways (Amendment) Act, 1916.

Secretary for Mines:—

All business relating to mining generally; geological and mining surveys and assays; mining museum; examination of coalfields; inspection of Collieries and mines; diamond drills; Prospecting Vote; Miners' Accident Relief; State Coal Mines.

Minister for Agriculture:—

The administration of all matters relating to agriculture and fruit culture, including the Agricultural College and experiment and demonstration farms, viticultural nurseries; commons; Botanic Gardens, Centennial Park, and Domain; stock, and supervision of dairies for instructional purposes; orchard inspection; bulk handling of wheat, &c.

Minister for Labour and Industry:—

The administration of the following Acts:—Agreements Validating Act, 1902; Apprentices Act; Early Closing Acts; Eight Hours Act, 1916; Factories and Shops Act, 1912; Gas Act, 1912; Industrial Arbitration Act, 1912; Saturday Half-holiday Act, 1910; Scaffolding and Lifts Act, 1912; Shearers Accommodation Act, 1901; Workmen's Compensation Act, 1910; and the administration of industrial laws; publication of *Industrial Gazette*; State agencies for labour exchange purposes; the training of women and youths for rural employment; the relief, shelter, and temporary occupation of the unemployed and of workers suffering from disabilities.

Minister for Education:—

Matters relating to education generally; technical education; kindergarten schools; State scholarships and bursaries; the University and affiliated colleges; Conservatorium of Music; Public Library; Observatory; Australian Museum; National Art Gallery; scholastic, literary, and

scientific institutions and charitable schools aided from Consolidated Revenue; State Children Relief Board; shelters, industrial schools, and homes for children; medical inspection of schools and pupils.

Local Government.—Business relating to the exercise by the Minister or the Governor of the powers conferred upon them by the Local Government Acts, Ordinances, and Regulations; the examination and supervision of accounts of councils; the holding of examinations and issue of certificates of qualification to Shire and Town Clerks, Engineers, and Auditors; the administration of the Impounding Act; the Valuation Bureau; the Patents' Investigation Board.

Commissions and Trusts.

In addition to the Ministerial Departments, various public services are administered by Commissions, Boards and Trusts; the more important of these are—

Chief Commissioner for Railways and Tramways.
Metropolitan Board of Water Supply and Sewerage.
Hunter District Water Supply and Sewerage Board.
Sydney Harbour Trust Commissioners.
Water Conservation and Irrigation Commission.
Housing Board.
Commissioners of the Government Savings Bank of New South Wales.
Board of Fire Commissioners of New South Wales.
Metropolitan Meat Industry Board.

In each case the authority controls a specific service, and administers the statute law in relation to it.

LOCAL GOVERNMENT.

Subsidiary to the Parliamentary and Administrative Government of the State, a system of Local Government is in operation in New South Wales, it is discussed in a subsequent chapter of this Year Book. For administrative purposes, the more populous eastern and central divisions of the State are subdivided in areas incorporated as shires and municipalities, while the more sparsely-settled western division remains under the jurisdiction of the Western Land Board.

In addition to Local Government Councils, various Boards and Trusts have been appointed to administer special services.

ROYAL COMMISSIONS AND INQUIRIES.

The important Royal Commissions and Commissions of Inquiry which have been reported since the year 1856 have been shown in the previous issues of this Year Book.

The following Royal Commissions and Commissions of Inquiry were appointed from 1st January, 1915, to 31st December, 1916.

Inquiry into contracts, agreements, &c., in regard to wheat acquisition.
Inquiry into the general administration of the Murrumbidgee Irrigation Areas.

Inquiry into certain allegations regarding the administration of the Dental Board of New South Wales and the conduct of its Registrar.

Construction of certain lines of railway between New South Wales and Victoria.

Questions affecting rural, pastoral, agricultural and dairying interests in New South Wales.

- Proposed acquisition by the Government of New South Wales of the works, plant, &c., of the British Imperial Oil Company.
- Matters affecting settlers on the Murrumbidgee Irrigation Areas.
- Construction of certain lines of railways between New South Wales and South Australia.
- Supply of Asbestolite, Fibro-Cement Sheets, &c., to the Water Conservation and Irrigation Commission.
- Use of electrically driven coal cutting machines in coal mines, and the dangers attending the use of such machines.

DEFENCE.

Prior to 1870, small garrisons of British troops constituted the main defences of Australia. In that year, the Imperial troops were withdrawn from New South Wales, as from the other Colonies, and defence became a matter of Colonial administration. The defence forces of New South Wales were established chiefly on a volunteer basis; the Military and Naval Forces Regulation Act, 1871, provided for the raising and maintenance of a standing force, but the permanent soldiery were limited to a small force, required for forts and defence works. A militia or partially paid system was introduced subsequently, and the military training of volunteer cadets was a feature of the education system of the State. The Governor was Captain-General, and at 31st December, 1900, till which date each Colony maintained its separate military establishment, the strength of the force of New South Wales was 503 officers, and 8,833 men in the ranks—practically the whole establishment consisting of militia or partially paid and of volunteer forces.

Upon the inauguration of the Commonwealth the duty of providing for the defence of Australia devolved upon the Federal Government.

DEFENCE LEGISLATION.

The Commonwealth of Australia Constitution Act, 1900, empowered the Commonwealth Parliament to legislate for the naval and military defence of the Commonwealth, and of the several States, and for the control of the forces to execute and maintain the laws of the Commonwealth; the Governor-General, as Commander-in-Chief, authorised the transfer of the defence arrangements of each State to the Commonwealth in March, 1901. Statutes in relation to defence were enacted in 1903 and subsequent years, particular provision in regard to naval defence being contained in the Naval Agreement Act, 1903–1912, and in the Naval Defence Act, 1910–1912. The earlier enactments of the Commonwealth Government in regard to defence provided machinery to systematise the defence forces, and to secure efficient administration. The divisions of militia and volunteers were retained, the permanent forces consisting of persons bound for a term of continuous service, and the citizen forces being at the call of the Commander-in-Chief in time of war. In 1909 an innovation was made, in that universal obligation to military and naval training was imposed, and arrangements were made for registration and enrolment for training; in 1910 the period of compulsory training was extended from two to seven years.

Administration.

A Council of Defence has been constituted to deal with matters of policy, its functions being chiefly to establish and maintain continuity in defence policy, to act as advisors to Parliament and Minister, to secure standard of

efficiency, and to ensure a measure of decentralisation. A Military and a Naval Board supervise the administration of the Military and Naval Forces respectively.

War Railway Council.

A War Railway Council was established in 1911 for the administration of the railways for defence requirements; the council consists of military and railway officers of the several States. An Engineer and Railway Staff Corps has been formed also. In time of war the military authorities may assume control of railways for transport for naval and military purposes.

LIABILITY FOR SERVICE IN TIME OF WAR.

The Defence Acts, 1903-1915, provide that all male persons—unless specifically exempted—who have resided in Australia for six months, and who are British subjects between the ages 18 and 60 years, may be called upon to serve in the Citizen forces in time of war. The order in which they may be called upon is as follows:—

1. From 18 to 35 years of age—All unmarried men or widowers without children.
2. From 35 to 45 years of age—All unmarried men or widowers without children.
3. From 18 to 35 years of age—All married men or widowers with children.
4. From 35 to 45 years of age—All married men or widowers with children.
5. All men aged 45 to 60 years.

The specific exemptions are as follows:—(a) Persons reported unfit by medical authorities; (b) Members and officers of Parliament; (c) Judges and police, stipendiary or special magistrates; (d) Ministers of religion; (e) Police or prison employees; (f) Persons employed in lighthouses; (g) Medical practitioners or nurses in public hospitals; (h) Persons not substantially of European origin or descent; (i) Persons whose conscientious beliefs do not allow them to bear arms; (j) Persons engaged in any employment specified by regulations or by proclamation. As regards persons in the classes (g), (h), and (i), the exemptions do not extend to duties of a non-combatant nature.

UNIVERSAL TRAINING.

Universal training, as established by the Defence Act, came into operation on 1st January, 1911; persons who reached the age of 18 years in or before the year 1911 were exempted from this obligation.

The prescribed training is as follows:—

Rank.			Age.	Service.	Annual Training.
			years.	years.	
Junior Cadets	...	...	12-14	2	90 hours.
Senior Cadets	...	...	14-18	4	4 whole day, 12 half-day, and 2 night drills, or their equivalent.
Citizen Forces—					
Artillery, Engineers, and Naval.			18-25	7	Drills equivalent to 25 whole days, of which, at least, 17 days must be in camps of continuous training.
Other	...	...	18-25	7	Drills equivalent to 16 whole days, of which, at least, 8 days must be in camps of continuous training.
Citizen Forces	...	...	25-26	1	One registration or one muster parade.

Members of Senior Cadets and Citizen Forces who have not attained a required standard of efficiency during each annual training must attend an equivalent additional training for each year in which they failed to qualify as efficient.

Exemptions from training in time of peace include persons medically unfit, school-teachers who have qualified as instructors or officers of the Junior or Senior Cadets, members of Permanent Naval or Military Forces, or of police or prison services, and persons whose *bona fide* residence is not within 5 miles of the nearest training place. Persons not substantially of European origin are exempt except from duties of a non-combatant nature. Exemptions may be granted to persons whose attendance at the prescribed training would impose great hardship upon them, their parents or dependents; also to persons employed in a factory established in pursuance of the Defence Act or in a civil capacity in connection with the Defence Forces.

Trainees may not be imprisoned in default of payment of pecuniary penalties for offences against the universal training provisions, but may be committed to the custody of a prescribed authority. Offences against the Defence Act committed by cadets under 17 years of age must be tried, as far as practicable, in Children's Courts.

MILITARY ORGANISATION.

The Commonwealth is organised for Defence purposes into six military districts, corresponding as far as practicable with the political divisions into States. The second military district represents the State of New South Wales, excepting the North Coast district, the Barrier district, and the Riverina, which are attached to Queensland, South Australia, and Victoria respectively.

The organisation is territorial, the basis being the battalion areas, which are grouped to form brigade areas. For the purposes of administration and for the training of Senior Cadets, the battalion areas are subdivided into training areas, each administered by an area officer:—

Military District.	Brigade Area.	Battalion Areas.	Training Areas.
	No.	No.	No.
1st—Queensland	3	12	31
2nd—New South Wales ..	8	32	72
3rd—Victoria	7	29	65
4th—South Australia ..	2	9	23
5th—Western Australia ...	2	6	14
6th—Tasmania	1	4	11
Commonwealth ...	23	92	216

At the end of the year 1909 Field-Marshal Lord Kitchener visited Australia to inspect the military forces, and forts and defence works, and to give the Government the benefit of his experience and advice in the development of a land defence scheme. His report advised the provision of an annual expenditure of £1,884,000 and a force of 80,000 men, of whom half would be engaged in the defence of the larger cities and ports, and the other half would form a mobile striking force.

In 1914, General Sir Ian Hamilton, Inspector-General of the Oversea Forces, conducted an inspection of the Australian Military system. His report was generally favourable to the system of training; and he strongly

urged the necessity for the organisation of all national resources on a war basis. Important recommendations were made regarding the re-organisation of military areas, co-ordination of cadet and militia training, the formation of adequate reserves, decentralisation of control, and the establishment of a military business department.

MILITARY FORCES.

Permanent military forces are organised for Administrative and Instructional Staffs, also for Expeditionary Forces in time of war. The Active Citizen Military Forces consist of militia and volunteers, trainees from 18 to 26 years of age, and officers on the unattached list; the Military Reserve Forces include officers on Reserve of Officers' list, members of Rifle Clubs who are allotted to the Military Reserve Forces, and all persons liable to serve in the Commonwealth in time of war who are not included in the active forces.

The military forces are not liable to serve beyond the Commonwealth unless they voluntarily agree to do so. The Citizen Forces may be called out for active service in time of war or for the protection of a State from domestic violence, but may not be utilised in connection with an industrial dispute.

The subjoined table contains information regarding the military forces in New South Wales on 31st December of each year since 1913; the figures represent the number attached to the Second Military District of the Commonwealth:—

Classification.	1913.	1914.	1915.	Classification.	1913.	1914.	1915.
Permanent—				Volunteer—			
Headquarters Staff ...	33	35	43	Automobile Corps ...	9	9	9
Artillery ...	371	401	368	Army Nursing Service	26	26	26
Engineers ...	89	81	96				
Army Service Corps...	49	58	51	Total Volunteer ...	35	35	35
Army Medical Corps	11	16	16				
Ordnance Department	78	79	96	Total Permanent, Militia, and Volunteer ..	17,067	21,399	26,313
Instructional Staff ...	179	181	433				
Other ...	53	61	58				
Total Permanent...	863	912	1,161				
Militia—				Area Officers ...	72	72	...
Engineers and Rail- way Transport ...	...	...	10	Area Medical Officers...	21	20	20
Light Horse ...	1,900	2,297	2,939	Engineer and Railway Staff Corps ...	10	9	9
Artillery ...	1,170	1,460	1,679	Chaplains ...	45	59	77
Engineers ...	732	960	1,072	Cadets, Senior (Uni- versal Training) ..	31,780	33,304	31,235
Infantry ...	11,556	14,486	17,756	Rifle Clubs ...	14,060	16,451	30,460
Intelligence Corps ...	12	15	...	Unattached List of Officers ...	66	69	69
Army Service Corps...	276	450	602	Reserve of Officers ...	221	208	208
Army Medical Corps	516	776	1,047	Medical Corps Reserve	57	73	73
Army Veterinary Corps ...	7	8	12				
Total Militia ...	16,169	20,452	25,117	Grand Total ...	63,399	71,664	88,464

Figures for each military district in Australia are given in the following return for the year ended 30th September, 1916 :—

Classification.	1st. Queens- land.	2nd. New South Wales.	3rd. Victoria.	4th. South Aus- tralia.	5th. Western Aus- tralia.	6th. Tas- mania.	Total.
Permanently employed ...	417	1,063	860	282	381	197	3,200
Citizen Soldiers ...	8,892	26,582	26,337	9,332	4,356	3,553	79,102
Engineer and Railway Staff Corps ...	10	9	9	5	9	5	47
Volunteers ...	32	26	8	16	113	29	224
Area Officers ...	28	39	64	43	16	11	201
Rifle Clubs ...	17,603	34,558	25,817	10,479	11,341	5,677	105,475
Senior Cadets ...	11,141	32,991	26,655	9,582	5,784	3,272	89,425*
Unattached List of Officers ...	44	69	53	22	15	15	218†
Reserve of Officers ...	151	208	265	68	46	31	769†
Chaplains ...	50	79	108	43	39	18	337
Total... ..	38,368	95,624	80,176	29,922	22,100	12,808	278,998

* Includes all officers doing duty with senior cadets.

† Exclusive of Area officers and officers doing duty with Australian Military Cadet Corps.

JUNIOR CADETS.

The training of Junior Cadets embraces physical training, elementary marching drill, and the attainment of a certain standard of efficiency in not less than one of the following subjects :—Miniature rifle shooting, swimming, running in organised games, first aid. In schools in the naval training areas instruction is given also in mariners' compass and elementary signalling. The training is commenced on 1st July of the year in which the cadet reaches the age of 12 years and is conducted by school teachers, who are instructed for this purpose by a staff of instructors maintained by the Defence Department.

Junior Cadets are not required to register, but are examined medically. Particulars regarding the medical examinations during the year ended 31st December, 1915, are given in the subjoined table :—

Military District.	Boys medically examined.			Percentage of total examined.	
	Total.	Medically fit.	Unfit and temporarily unfit.	Medically fit.	Unfit and temporarily unfit
1st—Queensland ...	6,210	6,033	177	97·1	2·9
2nd—New South Wales ...	18,846	18,355	491	97·4	2·6
3rd—Victoria ...	15,775	15,528	247	98·4	1·6
4th—South Australia ...	4,356	4,254	102	97·7	2·3
5th—Western Australia ...	2,844	2,781	63	97·8	2·2
6th—Tasmania ...	1,741	1,610	131	92·5	7·5
Commonwealth ...	49,772	48,561	1,211	97·6	2·4

Auxiliary Organisations.

Boys' Scouts, Boys' Brigades, and similar organisations exist which are not under Governmental control nor in receipt of subsidies from the Government. The instruction or training offered includes physical and elementary drill, signalling, first aid, &c. Boys belonging to these organisations must also undergo the training of cadets prescribed in the Defence Act.

SENIOR CADETS.

Boys are required to register for military training as Senior Cadets in January and February, and to commence training on 1st July of the year in which they reach the age of 14 years. After medical examination they are organised in military or naval units and trained in elementary exercises or in musketry on open ranges, but are not required to attend camp. The following return shows the registrations and medical examinations of Senior Cadets during the year ended 31st December, 1915:—

Military District.	Total Registrations.	Medically examined.	Medically fit.		Exemptions granted.*	Number actually in Training, as at 31st Dec., 1915.
			Number.	Percentage of medically examined.		
1st—Queensland	22,139	14,218	12,054	84·8	9,999	12,028
2nd—New South Wales ...	46,902	35,803	32,233	90·0	14,493	31,235
3rd—Victoria	40,962	31,587	27,993	88·6	12,745	27,704
4th—South Australia ...	12,822	10,045	8,934	88·9	3,824	8,930
5th—Western Australia ...	8,167	5,833	5,385	92·3	2,777	5,254
6th—Tasmania	5,576	3,678	3,140	85·4	2,410	3,094
Commonwealth	136,568	101,164	89,739	88·7	46,248	88,245

* Chiefly on account of distance from training places.

It will be seen that only a very small percentage failed to pass the medical examination, and that percentage would be further reduced by the exclusion of lads deemed only temporarily unfit.

CITIZEN FORCES.

On 1st July of the year in which the Senior Cadets reach the age of 18 years they are transferred, after medical examination, to the Citizen Forces. In the allotment to the various arms the wishes of the individuals are considered as far as practicable; only specially selected men are accepted for service with the Artillery, Engineers, and Army Service and Medical Corps. Service in the Light Horse is voluntary, the recruit being required to provide his own horse. In other arms voluntary enlistment ceased on 1st July, 1912, when the first batch of trainees completed their term as Senior Cadets; volunteers serving on that date were allowed to continue their service until the expiration of their period of enlistment, officers and non-commissioned officers only being eligible to re-enlist for further periods. On completion of their period of compulsory service, men may be enrolled in the Reserve Forces.

The rates of pay for the Citizen Forces are as follows:—

per day.				per day.				
£ s. d.				s. d.				
Colonel or Brigadier ...	2	5	0	Sergeant-Major	{	10	6	
Lieutenant-Colonel ...	1	17	6		{	11	0	
Major ...	...	1	10	Sergeant ...	...	10	0
Captain...	...	1	2	6	Corporal	9	0
Lieutenant	0	15	0	Private	4	0
				Recruit (1st year)	...	3	0	

For half-day parades half the above rates are paid, and for night drills, one quarter. Members of Light Horse units are granted horse allowances at the rate of 5s. per day up to a maximum of £4 per annum.

The registrations for training in the Citizen Forces as at 31st December, 1915, are shown below :—

Military District.	Total Registration in Training Areas.					Exemptions granted.	Number liable for training.
	1894 Quota.	1895 Quota.	1896 Quota.	1897 Quota.	Total.		
1st—Queensland	5,709	6,340	6,114	6,256	24,419	15,391	13,381
2nd—New South Wales ...	12,577	13,439	13,401	13,489	52,906	26,589	25,809
3rd—Victoria	10,779	11,444	11,629	11,087	44,929	23,268	22,510
4th—South Australia ...	3,370	3,723	3,702	3,412	14,217	6,260	6,158
5th—Western Australia ...	1,598	1,602	1,682	1,678	6,470	3,436	3,327
6th—Tasmania	1,517	1,630	1,662	1,499	6,308	3,289	3,013
Commonwealth	35,460	38,178	38,190	37,421	149,249	78,233	74,198

Reserves—Rifle Clubs.

The reserve of officers numbered 653 on 30th June, 1915. Members of Rifle Clubs constitute the reserves for the militia. A course of musketry is held annually, and the clubs are subsidised by the Defence Department. At 31st May, 1916, there were 1,542 rifle clubs in the Commonwealth, with 103,723 members.

DUNTROON MILITARY COLLEGE.

The Royal Military College of Australia was opened at Duntroon in the Federal Capital Territory in 1911. Admission to the College is by open competitive examination, the vacancies being allotted to the States on the basis of population ; the age of admission is from 16 to 19 years except for members of the citizen forces who, in accordance with a provision of the Defence Act, may be admitted when over 19 years of age. No fees are charged for maintenance and instruction, and each cadet receives an allowance of 5s. 6d. per day while in residence. Ten cadets from New Zealand are admitted to the College in each year, an annual fee of £200 being paid for each cadet by the Dominion Government.

The College course extends over four years, the first two being devoted primarily to civil subjects, the remaining years to military subjects; physical training, drills, musketry, signalling, and military exercises are continuous during the whole period. The graduates of the College, after a short period of duty with the Imperial Forces in England or India, will be appointed to the permanent forces.

Owing to the war the usual course of instruction has been modified, a large number of cadets have joined the Australian Expeditionary Forces for active service, and special schools for the instruction of officers for these contingents are held at the College. In March, 1916, there were 125 cadets in residence.

Schools of Instruction.

Militia officers and non-commissioned officers are instructed at schools and classes of instruction for the various arms held periodically in each military district.

AVIATION SCHOOLS.

An aviation school has been established at Richmond by the New South Wales Government. The Commonwealth Aviation School for the training of officers and mechanics, is situated in Victoria.

NAVAL DEFENCE.

In 1885 Australia, previously attached to the China and East Indies Naval Station, was constituted as a separate naval command. As an Imperial Naval base, New South Wales was accorded a large measure of naval protection, and prior to the Federation of the Australian Colonies, supplemented the Imperial Naval Forces by local organisations, such as the Naval Brigade and Naval Artillery Volunteers. Under agreement between the Australian Colonies and the Imperial Government, in 1891 and subsequent years, the Imperial vessels on the Australian Naval Station were reinforced by an auxiliary squadron of five third-class cruisers and two torpedo gunboats to assure protection to trade in Australasian waters. The agreement was renewed by the Commonwealth Government, in 1903, for a period of ten years, and by a subsequent arrangement it was agreed that the squadron provided by the Imperial Government for the Australian Station should consist of one first-class armoured cruiser, three second-class, and five third-class cruisers. The Australian Government contributed—to a maximum of £200,000 per annum—five-twelfths of the annual cost of maintenance, and the Government of New Zealand paid one-twelfth up to a maximum of £40,000 per annum.

Though connected immediately with the ports of Australia and New Zealand, the sphere of operations of this fleet extended to the Australian, China, and East Indies stations. One ship was kept in reserve, and three others, partly manned, were used as drill ships for training the Royal Naval Reserve, the remainder being kept in commission fully manned. The drill ships and one other vessel were manned by Australians and New Zealanders, paid at special rates, and controlled by officers of the Royal Navy and Royal Naval Reserve.

In 1908 the Commonwealth Government decided to raise an Australian naval force, and to build submarines and torpedo-boat destroyers for the protection of the Australian coast, and to replace the squadron of Imperial vessels maintained under the Naval Agreement; in pursuance of this policy contracts were made for the construction of three destroyers. Subsequently, at the Imperial Defence Conference in 1909, the Commonwealth Government undertook to provide a fleet unit consisting of one armoured cruiser, three second-class protected cruisers, destroyers, and two submarines.

In 1911 Admiral Sir Reginald Henderson visited Australia to advise the Commonwealth Government in the matter of naval defence. His recommendations involve the gradual acquisition of a fleet of fifty-two vessels, requiring a complement of some 15,000 men; the construction of docks; and the establishment of six naval bases and eleven sub-bases.

Towards the end of 1913, the advice of Sir Maurice Fitzmaurice, an engineering expert, was obtained regarding the construction of naval bases.

Naval Administration.

Under the provisions of the Naval Defence Act 1910-1912 a Naval Board is charged with the administration of matters relating to the Naval Forces.

The Board consisting of the Minister for Defence as President, three naval members, and a finance and civil member was appointed in 1911.

In July, 1915, an additional Federal Minister was appointed to administer the Department of the Navy which was previously a branch of the Department of Defence; in the same year the control of wireless telegraphy in Australia was transferred from the Postmaster-General to the Minister for the Navy.

The District Naval Officer for New South Wales is responsible for the organisation and training of naval cadets, and has control of naval services within the State.

The Naval Defence Act authorises the transfer of any part of the King's Naval Forces to the Commonwealth, and of the Australian Navy to any other part of the British Empire.

Australian Naval Station.

The boundaries of the Australian Naval Station are:—On the north from 95° E. longitude by the parallel of 13° S. latitude to 120° E. longitude; thence north to 11° S. latitude; thence to the boundary with Dutch New Guinea on the south coast in about longitude 141° E.; thence along the coast of Papua to 8° S. latitude; thence east to 155° E. longitude; on the east by the meridian of 155° E. longitude to 15° S. latitude; thence to 28° S. latitude on the meridian of 170° E. longitude; thence south to 32° S. latitude; thence west to the meridian of 160° E. longitude; thence south; on the south, by the Antarctic Circle; on the west, by the meridian of 95° E. longitude.

Australian War Vessels.

The destroyers, "Parramatta" and "Yarra," the first vessels of the Australian Navy, were built in Great Britain, and arrived in Australian waters during the latter part of the year 1910; the parts of the "Warrego" were imported and put together at Fitzroy Dock, Sydney, the vessel being launched on 4th April, 1911, and put into commission on 1st June, 1912.

The battle cruiser "Australia" and the light cruisers "Sydney" and "Melbourne" were completed and put into commission in 1913, and two submarines in 1914. In August 1914, the Australian war vessels were transferred to direct Imperial control and further particulars regarding them may not be published during the continuance of the war.

The Imperial naval establishments at Sydney were transferred to the Commonwealth on 1st July, 1913, and after the arrival in Sydney of the battle cruiser "Australia," on 4th October, 1913, the Imperial war vessels on the Australian Station were transferred to New Zealand.

Classification of Naval Forces.

The naval forces of the Commonwealth consist of the Permanent and the Citizen naval forces. The Permanent forces are those who engage for continuous naval service; the Citizen include the partially-paid naval reserves, previously the naval militia, and the trainees under the universal training system.

The naval forces may be required to serve for training or other service beyond the limits of the Commonwealth; the permanent are liable at all

times to be employed on any naval service; the citizen forces are not liable to continuous service in time of peace, and may be called out for active service by proclamation only.

The Defence Act provides that a proportion of the trainees under the universal training system is allotted to the naval forces, the navy having first choice in selection. The senior naval cadets in New South Wales are drawn chiefly from the maritime districts in the neighbourhood of Sydney and Newcastle.

The number of naval trainees in New South Wales under the universal training system at 1st July, 1912-16, is shown below:—

Year.	Sydney.		Newcastle.	
	Adults.	Cadets.	Adults.	Cadets.
1912	158	780	37	204
1913	322	698	77	241
1914	399	692	112	257
1915	460	785	140	298
1916	433	778	161	314

Naval Training Ship.

The naval training ship "Tingira" was commissioned in June, 1912, when 100 boys, selected from the several States of the Commonwealth, commenced training. The ship is moored in Rose Bay, Port Jackson, and has accommodation for 300 boys. On the completion of their course on the "Tingira," which lasts about a year, the trainees are drafted into the permanent naval forces. The age of entry is 14½ to 16 years, and trainees engage to serve until they reach the age of 25 years.

Naval College.

The Royal Australian Naval College is situated at Jervis Bay, where an area of territory was ceded to the Commonwealth by the Government of New South Wales. The Jervis Bay College was opened in February, 1915, when the establishment was transferred from a temporary college at Geelong, Victoria, opened in 1913. Education and maintenance are free for a course of four years; boys who are the sons of natural born or naturalised British subjects, are eligible to compete at the entrance examination held in the year in which their thirteenth birthday occurs. In 1916 there were 114 cadet midshipmen under training. H.M.A.S. "Franklin," 288 tons, serves as a tender to the College.

UNIFORM AND EQUIPMENT.

In order to render Australia self-contained in the matter of uniform and equipment for defence purposes, factories have been established throughout the Commonwealth for the manufacture of small arms, cordite, clothing, harness and leather accoutrements, and woollen fabrics.

The small arms factory, which was opened on 8th June, 1912, is situated at Lithgow, New South Wales; the factory site contains about 123 acres, and the buildings have a floor-space of nearly 2 acres.

EXPENDITURE BY COMMONWEALTH ON DEFENCE.

The expenditure on defence in Australia is controlled entirely by the Commonwealth Government. Separate figures cannot be shown for the State of New South Wales.

The expenditure of the Commonwealth Defence Department during the five years ended 30th June, 1916, is shown below :—

Branch or Department.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
	£	£	£	£	£
Central Administration	64,304	74,480	86,250	88,233	103,525
Royal Military College	28,186	39,713	49,056	48,221	48,950
Factories (Defence requisites) working expenses ..	97,651	90,478	82,554	58,792	182,190
Naval Agreement	200,000	166,600	.....	.....	.....
Naval Forces	248,731	624,150	967,583	2,289,056	43,736,655
Military Forces	258,571	1,427,252	1,538,544	15,035,296	128,439
Interest, &c., on transferred properties	162,132	122,561	94,858	177,740	.....
Additions, New Works, &c.—					
Fleet Unit	1,108,171	555,342	753,537	568,204	377,682
Other	845,078	1,148,276	1,047,890	952,430	1,529,098
Miscellaneous	68,774	67,453	132,463	318,814	*
Total	4,081,548	4,346,305	4,752,735	19,536,836	46,107,439

* Included in Naval and Military Forces.

ROYAL NAVAL HOUSE.

The Royal Naval House, erected in Sydney exclusively for the accommodation of the men of the British Navy, was built in 1889, at a total cost inclusive of land, of £25,000, contributed by citizens and by the Government of New South Wales. A new wing was added, in 1908, at a cost of £8,600. The House contains large reading, smoking, dining, and billiard rooms, besides a gymnasium, and other accessories. Sleeping accommodation is available for 400 men. The institution is self-supporting, and is controlled by a Superintendent, a Committee elected by the Trustees from among their number, and a few Naval Officers, with an Honorary Secretary and Treasurer. An annual grant from the Government of New South Wales is devoted to maintaining the House during the absence of the Fleet from Sydney. It is now used by the petty officers and men of the Australian Navy.

SOLDIERS' CLUB.

The first Soldiers' Club to be established in the State was opened on 3rd June, 1915, at Sydney, in a large building centrally situated in the city.

The rooms are now freely used by soldiers of the Australian Expeditionary Forces, the building being maintained by public subscriptions.

WAR CONTINGENTS.

Although service in the military forces beyond Commonwealth territory is not obligatory, in time of war contingents of volunteers are sent from Australia to co-operate with the Imperial Forces. The first contingent was despatched from New South Wales to the Soudan Campaign in 1885; large numbers of troops were sent from Australia to the South African war, which commenced in 1899, and a naval contingent proceeded to China at the time of the Boxer rebellion in 1900.

EUROPEAN WAR.

Naval and Military Operations.

Upon the outbreak of war in August, 1914, the control of the Australian Navy was transferred to the British Admiralty, and an offer to despatch and maintain a fully equipped expeditionary force for service abroad was accepted by the Imperial Government, the local forces being immediately mobilised for home defence.

The first expedition, consisting of military and naval forces, sailed from Australia on 19th August, 1914, to seize and occupy German possessions in the Pacific; German New Guinea and neighbouring islands were occupied and have since been garrisoned by a special force organised for service in the tropics.

The Australian Imperial Expeditionary Forces were despatched to Egypt where the first convoy landed in December, 1914; in February, 1915, the Australians assisted in the defence of Egypt against the Turkish invasion, and from April to December were actively engaged in the Dardanelles. During 1916 the Australian force was operating in the defence of Egypt, and on the Western front in Europe.

Immediately after the declaration of war the Australian war vessels were actively employed in the destruction of German Pacific wireless stations and in search for enemy warships known to be cruising in the Pacific. The search was suspended in order to assist in the convoy of the New Zealand Expedition to Samoa and to take part in the Australian expedition against German New Guinea. During the latter operations the submarine AE1 was lost whilst engaged on patrol work; the cause of the disaster being unknown. The German gunboat "Komet," and the Government yacht "Nusa," with other prizes were captured; the "Komet," having been renamed "Una," is now attached to the Australian navy.

Whilst the Australian war vessels were escorting the first Australian and New Zealand Imperial Expeditionary Forces to Egypt, news was received of the presence of the German cruiser "Emden" at Cocos Island; the H.M.A.S. "Sydney" proceeded to Cocos Island, and after a short engagement, on the 9th November, 1914, completely disabled the "Emden," which was driven ashore on North Keeling Island and became a total wreck.

The submarine AE2 was lost in May, 1915, whilst operating in the Sea of Marmora.

Military Service Referendum.

The Military Service Referendum Act, 1916, was passed by the Commonwealth Parliament to submit to a referendum the following question in relation to military service abroad:—"Are you in favour of the Government having, in this grave emergency, the same compulsory powers over citizens in regard to requiring their military service, for the term of this war, outside the Commonwealth, as it now has in regard to military service within the Commonwealth?"

The referendum was taken in Australia on 28th October, 1916, and special arrangements were made to obtain the votes of persons absent from the Commonwealth on military service who otherwise were qualified for enrolment as electors, and of persons living in the territories under the authority of the Commonwealth. With certain exceptions any naturalised British subject who was born in any country with which Great Britain is at war became disqualified from voting at the Referendum. The result of the voting, indicated that a majority of the electors were not in favour of compulsory military service abroad.

Pending the result of the referendum a proclamation under the provisions of the Defence Act was issued on 29th September, 1916, calling upon all single men and widowers without children, between the ages of 21 and 35 years, to enlist and to render continuous service within the Commonwealth and its territories during the continuance of the present war. The men were required to attend for enlistment on and after 2nd October, 1916, in the military districts in which they resided and, after medical examination, to

report within seven days at Citizen Forces Training Camps in various centres, unless they were declared medically unfit or made application for exemption. After the referendum it was decided to retain the men in training camps for a period of 30 days and then discharge them ; subsequently on 22nd November the Proclamation was revoked and all the trainees released.

Particulars of the number of men who reported for enlistment in terms of the proclamation and the results of medical examinations as on 21st November, 1916 are shown hereunder :—

Military District.	Total Registrations.	Medically examined.					Applications for Exemption.
		Fit.	Unfit.	Doubtful.	Temporarily Unfit.	Total examined.	
1st—Queensland	33,925	21,836	8,335	1,676	1,029	32,876	14,415
2nd—New South Wales ...	69,039	35,096	18,064	2,453	3,590	59,203	33,742
3rd—Victoria	54,358	32,110	14,797	4,903	2,303	54,113	23,776
4th—South Australia ...	18,629	13,129	3,713	771	829	18,442	10,369
5th—Western Australia ..	8,631	4,589	3,121	480	411	8,601	2,985
6th—Tasmania	6,287	4,103	1,821	199	161	6,284	3,229
Total	190,869	110,863	49,851	10,482	8,323	179,519	88,516

Local Exemption Courts were established in each sub-district, summary jurisdiction being exercised by a stipendiary, police or special magistrate ; appeals from the magistrate's decisions were held in the Military Exemption Appeal Court by a Judge of the Supreme Court.

In addition to the grounds for exemption from military service in time of war, as set forth in the Defence Act, regulations were issued to allow certificates of exemption to be granted on the grounds of exceptional domestic financial obligations, and of expediency in the national interest that a man should be engaged in other work than military service. Exemption might be claimed by the only son of a family ; the sole remaining son, or one of the remaining sons of a family, of whose sons one-half at least had enlisted prior to 2nd October, 1916 ; the main supporter of aged parents or a widowed mother or orphans, brothers and sisters under the age of 16 years, or physically incapable of earning their own living.

The number of exemption claims dealt with in each Military District to 21st November, 1916 is shown in the following statement :—

Military District.	Number dealt with.	Number allowed.	Number disallowed.	Number adjourned.
1st—Queensland	15,050	9,939	3,029	2,082
2nd—New South Wales ...	19,814	15,817	3,997	.....
3rd—Victoria... ..	17,720	12,262	5,458	.....
4th—South Australia ...	8,767	3,495	4,890	382
5th—Western Australia ...	2,788	2,057	395	336
6th—Tasmania	3,093	2,190	617	286
Total	67,232	45,760	18,386	3,036

WAR LEGISLATION.

A brief review is appended of the special legislation enacted in the Parliaments of New South Wales and of the Commonwealth in order to cope with emergencies arising from the state of war, and to organise the national resources for war purposes.

STATE ACTS.

Shortly after the declaration of war, the Postponement of Debts Act, 1914, was passed to empower the Governor to postpone, by proclamation, the payment of debts; the interest chargeable in respect of a postponed debt will be continued, but not payable during postponement. The Act will continue in force until six months after the war. There has been no necessity, so far, for the issue of any proclamation.

The Commissioners of the Government Savings Bank were empowered under the Government Savings Bank Amendment Act, 1914, to prescribe conditions and periods of notice to be given in respect to withdrawals.

The Motor Tax Management Acts, 1914 and 1916, the Motor Vehicle (Taxation) Act, 1916, the Finance (Taxation) Acts, 1914 and 1915, the Finance Taxation Management Act, 1915, and the Income Tax Act, 1916 provide for imposing and collecting additional taxes upon motor vehicles, incomes, racing clubs and associations, bookmakers and betting tickets. Under the Totalizator Act, 1916, the Consolidated Revenue Fund will receive a commission on all moneys paid into totalizators on racecourses.

The Commonwealth War Loan (Investment Enabling) Act, 1915, and the Commonwealth Loans (Investment Enabling) Act, 1915, authorise trustees and others to invest in Stock, Treasury Bills, and Bonds of the Commonwealth any property which they are not expressly forbidden to invest in Government Stock or securities.

A number of Acts were passed for the benefit of men enlisting in the expeditionary forces, viz.:—The Constitution Amendment Act, which enables members of the State Parliament to serve in the military or naval forces without incurring disqualification by reason of accepting an office of profit under the Crown; the Apprentices Amendment Act, 1915, which protects the interests of apprentices who enlist for war service; the Probate Duties War Exemption Act, 1915, which exempts from stamp and probate duties the estates of persons dying on active service, or as the result of injuries or diseases contracted on active service, with the Commonwealth or other British forces; also any estates the subject of settlement, trust, disposition, conveyance, transfer, vesting, purchase, investment, or gift made by persons so dying.

The Medical Practitioners Amendment Act, 1915, was passed to permit medical students at the Sydney University who desire to volunteer for war service to complete their course in a shorter period of time than five years, the minimum fixed by the Medical Practitioners Act of 1912. Graduates of German and Austrian Universities and Medical Schools, and German and Austrian subjects, are excluded from registration as medical practitioners in New South Wales.

The Trustees Delegation of Powers Act, 1915, authorises trustees, executors, and administrators temporarily absent, or about to depart from, the State, to delegate their powers for a maximum term of two years.

Under the Returned Soldiers Settlement Act, 1916, land may be set apart for the settlement of members of the Commonwealth Naval and Military Forces, or residents of Australia joining the forces of Great Britain, who return to New South Wales after service abroad; special tenures are created for these settlers, and financial and other assistance may be granted to them.

The National Relief Fund Act, 1914 provided for the amalgamation of funds instituted for purposes of relief in connection with certain mining

disasters and the South African War. The fund so formed may be applied for the relief of persons injured, and the dependents of persons killed or injured in war or public disaster.

Under the Destitute Children's Society (Vesting) Act, 1916, land and buildings held by the Society at Randwick were vested in the Crown for use as a hospital home for invalided soldiers and sailors or for such other purpose as the Governor may determine. The property had been used as an institution for destitute children until 1915 when it was converted into a military hospital. The moneys and securities held by the Society were vested, under the Act, in the Public Trustee to be used for the care of defective children.

With regard to food supplies, important enactments were passed, viz., the Necessary Commodities Control Act, 1914, which provided for the control of prices of articles used for ordinary food consumption, and of coal, firewood, gas, and other fuel; the fixing of prices was taken over by the Commonwealth Government in July, 1916, and the operations of the State body were superseded in consequence; the Wheat Acquisition Acts, 1914 and 1915 which enabled the State Government to compulsorily acquire the wheat harvest of 1914-15; and the Meat Supply for Imperial Uses Act, 1915, to secure supplies of meat for the use of the Imperial Government during the war.

The Munitions Act, 1915, authorises the Chief Commissioner for Railways to manufacture and supply arms and munitions of war.

The Commonwealth Powers (War) Act.—The Commonwealth Government had made arrangements for submitting to the vote of the electors in December, 1915, certain proposals for extending the powers of the Commonwealth Parliament, but in the preceding month an agreement was made between the State Premiers and the Prime Minister of the Commonwealth that the Premiers would bring forward in their respective Parliaments legislation for referring these powers to the Federal Parliament, and that the Commonwealth Government would postpone the referendum during the currency of the war. The New South Wales Act will operate during the war and for twelve months after the declaration of peace.

Under this Act the following matters are referred to the Commonwealth:—

- (i) Trade and Commerce.
- (ii) Corporations, including the creation, dissolution, regulation and control of corporations (State and Foreign), exclusive of municipalities, and religious, charitable, scientific, or artistic societies.
- (iii) Employment and unemployment; strikes and lock-outs; maintenance of Industrial peace; settlement of Industrial disputes.
- (iv) Conciliation and Arbitration for the prevention and settlement of Industrial disputes relating to State Railways.
- (v) Trusts, combinations, monopolies, and arrangements relating to the production, manufacture or supply of goods, or the supply of services, including ownership of means of production, manufacture, or supply.
- (vi) The conduct, by or under the control of the Commonwealth, of any industry or business of producing, manufacturing or supplying specified goods or services, which have been declared to be subjects of monopolies, and the acquisition of properties connected with such industries. This does not apply to undertakings carried on by State Governments, nor to State Railways; and the rates and fares charged by Railway authorities cannot be altered.

The Liquor Referendum Act, 1916, submitted to a referendum the question of the hour at which premises licensed for the sale of intoxicating liquors should be closed during the currency of the war. It was brought forward in response to a popular demand for the restriction of the consumption of alcoholic liquors by closing licensed houses earlier than 11 p.m., the statutory closing hour. As the result of the referendum the closing hour was altered to 6 p.m., and the Liquor Amendment Act, 1916, was passed to provide for the abatement of rents of licensed premises, the reduction of license fees, the postponement of payment of mortgages, &c., the closing of bars during prohibited hours, and the suspension of the taking of the local option vote at the next general election of the State Parliament.

The Enemy Contracts Annulment Act, 1915, provides for the annulment or termination of contracts with or for the benefit of enemy subjects. The Naturalised Subjects Franchise Act, 1916, suspends from certain privileges naturalised British Subjects of enemy origin, *i.e.*, persons who at the time of naturalisation were subjects of any country with which the British Empire is at war. During the continuance of the war no such person may participate, as candidate or elector, in the elections of the State Parliament, or municipal or shire councils, nor sit in such assemblies, nor officiate as justice of the peace, coroner, member of licensing bench, or juror, nor obtain a license or renewal of license under the Liquor Act. No person convicted under the Commonwealth War Precautions Act under circumstances which indicate disloyalty will be allowed to vote at Parliamentary, municipal, or shire elections.

The Legislative Assembly Continuance Act, 1916, extended for a maximum period of one year the duration of the Legislative Assembly of New South Wales, which would have expired by effluxion of time in December, 1916. The Crimes Prevention Act, 1916, was passed with the object of providing an effective method of dealing with the offence of inciting to the commission of crime.

COMMONWEALTH ENACTMENTS.

In the Federal Parliament the following legislation was passed to enable the Government to make adequate provision for the safety and defence of the Commonwealth :—

The War Precautions Act, 1914, and two amendments in 1915, empower the Governor-General to make regulations and orders for the safety of the Commonwealth, in particular with a view to prevent persons communicating with the enemy in order to jeopardise the operations of His Majesty's forces, or to assist the enemy ; to prevent the transmission abroad, except through the post, of any letter, newspaper, &c. ; to secure the safety of means of communication, railways, docks, harbours, and public works ; to prevent the spread of reports likely to cause disaffection or alarm ; to secure the navigation of vessels in accordance with the direction of the naval authorities ; to prevent assistance to the enemy ; to secure the successful prosecution of the war ; and to cause the detention of any person in military custody. The Minister for Defence may take possession of any factory or of its output for the production of war supplies, and authority is given for the supervision and detention of aliens, for the application to naturalised persons of regulations relating to aliens, and for the prevention of the exportation of money or goods.

The War Precautions Amendment Act, 1916, authorised regulations regarding the possession and ownership of the property of alien enemies and

persons having enemy associations or connections, their trade or business, civil rights and obligations; also the disposal, use or requisitioning of property or goods of any kind.

The Rules Publication Act, 1916, repealed the clause of the Rules Publication Act, 1903, requiring that 60 days' notice be given of any proposal to make statutory rules.

The War Census Acts of 1915 and 1916 enable the Government to take a Census to obtain information regarding the national resources.

The Defence Acts of 1914 and 1915 amend the defence laws in view of special conditions arising from the state of war and from the despatch of expeditionary forces abroad.

The Customs Act, 1914, gives the Governor-General authority to prohibit the exportation of any goods in time of war.

The Patents, Trade Marks, and Designs Acts, 1914 and 1915, provide for the avoidance or suspension of any patent or licence or registration of trade mark or design for the benefit of a person who is the subject of any State at war with the King, and for the transfer of such rights to other persons.

The Patents (Partial Suspension) Act, 1916, suspends during the continuance of the war, and for six months thereafter, the section of the Patents law, which prescribes that a patent may be voided if it is not worked to an adequate extent in the Commonwealth.

The Trading with the Enemy Acts, 1914, prohibit trade with or for the benefit of the enemy. Persons acting in contravention of these statutes may be prosecuted either summarily or upon indictment; the authorities are empowered to conduct searches of premises, books, &c., and the High Court, on the application of the Minister, may appoint a controller of a firm or company trading with the enemy, or so affected by the state of war, as to prejudice the effective continuance of its trade or business. The Controller-General of Customs may receive and hold in trust, till after the termination of the war, moneys for the discharge of debts due to enemy subjects.

Under the Trading with the Enemy Act, 1916, provision is made for the appointment of a Public Trustee to act as custodian of the property of persons of enemy nationality or associations, the payment of debts due by enemy subjects, and the winding up of enemy companies; assignment of debts and transfers of shares by enemy subjects are invalidated. Restrictions on dealings with enemy subjects may continue beyond the period of the war until such time as they are removed by the Governor-General.

The Enemy Contracts Annulment Act, 1915, provides for the annulment of contracts with or for the benefit of the enemy, and for the termination of contracts suspended during or on account of the war.

The Judiciary Acts of 1914 and 1915 conferred on the High Court of Australia, original jurisdiction in matters of Admiralty or Maritime Jurisdiction, and extended its powers during the war and for six months after, to include trials of indictable offences against the laws of the Commonwealth. The High Court Procedure Act, 1915, determines the procedure in trials of these offences.

The Crimes Act, 1914, and its amendment of 1915, relate to offences against the Commonwealth, such as treason, mutiny, offences against the administration of justice, or relating to coinage, forging, breach of official secrecy, conspiracy, &c.

The Unlawful Associations Act, 1916, was enacted for the suppression of the practices of advocating or inciting to the crimes of taking or endangering of human life, and the destruction or injury of property. Any person not being a natural-born British subject born in Australia is liable to deportation upon conviction for these offences. The Industrial Workers of the World and any association, which by its constitution or propaganda incites to crime, were declared unlawful associations. The Act will continue in force until six months after the conclusion of the war.

The Commonwealth Inscribed Stock Act, 1915, amends the principal Acts, 1911-13, to facilitate the raising of war loans.

The War Loan Acts, 1914, (No. 2), 1915, and (United Kingdom) (No. 1), 1916, authorised the Commonwealth Government to borrow money from the Imperial Government; and the War Loans Acts (No. 1 and No. 3), 1915 and 1916 authorised the raising of loans for war purposes. The War Loan Act (United Kingdom, No. 2), 1916, provided that moneys raised by war loans be paid into a special loan fund to be used for war purposes only.

The States Loan Act, 1916, authorised the Commonwealth Government to borrow the sum of £8,940,000 to be loaned to the States of Victoria, Queensland, South Australia, Western Australia and Tasmania.

The Treasury Bills Act, 1914, authorises the issue of Treasury Bills, and the Treasury Bills Act, 1915, authorises the Treasurer to borrow money from the Australian Notes' Account without issuing Treasury bills.

The Sugar Purchase Act, 1915, and the Freight Arrangements Act, 1915, authorise the Government to borrow money from the Commonwealth Bank, the former for the purchase of sugar and the payment of Customs duty on sugar imported to supply the local shortage, and the latter to obtain freight to carry the wheat crop to oversea markets.

The Commonwealth Bank Act, 1914, amends the Act of 1911, and makes provision for increasing the capital of the bank, and for the establishment of branches and agencies in other parts of the British Empire.

The Australian Notes Act, 1914, repealed the clause of the principal Act, 1910-1911, which prescribed that Australian notes should bear date of issue from the Treasury.

Additional taxes were imposed by a number of statutes, viz., the Estate Duty Assessment Act, 1914-16, and the Estate Duty Act, 1914, to impose duties upon the estates of deceased persons, exemptions being granted in the case of persons dying, during the war or within one year after its termination, on active service, or as the result of injuries or disease contracted on active service. The Land Tax and Land Tax Assessment Acts, 1914, increased the amount of tax upon land; the Income Tax Assessment and the Income Tax Acts, 1915, imposed a tax upon incomes which was increased under the Income Tax and the Income Tax Assessment Acts of 1916. The Entertainments Tax Assessment and the Entertainments Tax Acts, 1916, provide for the collection of a tax upon payments for admission to entertainments.

In connection with the administrative arrangements of the Commonwealth Government, the Ministers of State Act, 1915, increased the number of Ministers from seven to eight, thus making provision for the appointment of the Minister for the Navy; while the Wireless Telegraphy Act, 1915, authorised the transfer of control from the Postmaster-General to the Minister for the Navy.

The Belgian Grant Act, 1914, authorised the appropriation of £100,000 out of Consolidated Revenue in aid of the Government of Belgium.

The War Pensions Acts of 1914-16 make provision for pensions for soldiers and their dependents; details are shown elsewhere in this publication.

The Officers Compensation Act provides for compensation to the widow of Major-General Sir W. T. Bridges, K.C.B., C.M.G., who lost his life on active service in Gallipoli.

The Australian Soldiers' Repatriation Fund Act, 1916, provides for the administration of a fund to be raised by public subscription for assisting soldiers and sailors and their dependents. The fund is vested in trustees under the presidency of the Prime Minister of the Commonwealth, and they will apportion it among the various States.

The Commonwealth Public Service Act, 1915, provides *inter alia* for preference in appointments to members of expeditionary forces who have served with satisfactory record; for leave of absence, without pay, to Commonwealth Public Service officers joining the expeditionary forces or called up for service under the Defence Acts; for raising the maximum age for entrance to the clerical division from 21 to 25 years; and for the extension of eligibility for appointment, until nine months after the termination of the war, of persons eligible at the commencement of the Act.

The Quarantine Act, 1915, extends the power of the Government in relation to infectious diseases, which became necessary in consequence of the opening of the Panama Canal and the inauguration of a new trade route through an area infected with yellow fever, and in view of the possibility of the introduction of infectious diseases by soldiers returning from service abroad.

The Referendum (Constitution Alteration) Acts, 1915, relate to the submission of certain proposed laws to the electors; its postponement is noted above; the Compulsory Voting Act, 1915, was passed to provide for compulsory voting at this referendum.

The Military Service Referendum Act, 1916, made provision to submit to a referendum the question of compulsory military service abroad. Details are shown in the chapter relating to defence.

The Daylight Saving Act, 1916, promotes the earlier use of daylight by prescribing that Australian clock time be one hour in advance of the standard time from the last Sunday in September of each year to the last Sunday in March of the following year. The Act commenced on the 1st January, 1917, and will continue in force during the period of the war and for six months thereafter.

EDUCATION

DIFFUSION OF EDUCATION.

SOME idea of the diffusion of education among the people of New South Wales may be gathered from the following figures, derived from the Census of 1911 :—

	Males.	Females.	Total.
English Language—			
Read and write ...	696,258	645,022	1,341,280
Read only	2,565	3,140	5,705
Foreign Language only—			
Read and write ...	5,889	650	6,539
Read only	497	61	558
Cannot read	134,215	123,808	258,023
Not stated	18,274	16,355	34,629
Total	857,698	789,036	1,646,734

As regards those who cannot read, classification according to age shows the following :—

Ages.	Males.	Females.	Total.
Years.			
0—4	102,003	98,863	200,866
5—9	16,612	14,944	31,556
10—14	605	440	1,045
15—19	641	338	979
20 and upwards	13,934	8,922	22,856
Unspecified	420	301	721
Total	134,215	123,808	258,023

Persons of the age of 5 years and over who could not read, in proportion to the total population, were :—Males, 3·7 per cent. ; females, 3·1 per cent. These figures included immigrants and persons who had not come under the operation of the Public Instruction Act of New South Wales.

SCHOOL POPULATION.

Under the Public Instruction Act, 1880, attendance at a school was obligatory upon children between the ages of 6 and 14 years ; but this period of eight years does not cover the full school age, which is extended frequently by kindergarten training on the one hand and by continuation or secondary school work on the other ; so that the full school age may

fairly be taken as from ages 5 to 18 inclusive. The following statement, derived from the records of the Census in April, 1911, shows the population of the State (exclusive of aboriginals) in relation to schooling :—

	All ages.			School ages (6 and under 14).		
	Males.	Females.	Total.	Males.	Females.	Total.
Receiving Instruction—						
At School—						
Public... ..	107,015	98,754	205,769	91,979	84,129	176,108
Private	26,975	32,228	59,203	19,107	23,329	42,436
Unspecified	4,792	5,111	9,903	3,809	3,279	7,088
Total	138,782	136,093	274,875	114,895	110,737	225,632
At the University	762	171	933	.....	.....	.....
At home	4,617	5,530	10,147	3,436	4,191	7,627
Total receiving In- struction... ..	144,161	141,794	285,955	118,331	114,928	233,259
Not recorded as receiving Instruction	713,537	647,242	1,360,779	11,574	12,802	24,376
Total	857,698	789,036	1,646,734	129,905	127,730	257,635

Persons of all ages who were receiving instruction formed 17·36 per cent. of the total population ; persons of school age (6 and under 14 years) represented 15·67 per cent. of the total, the proportion of girls being rather greater than the proportion of boys, viz., 16·21 per cent. as against 15·17 per cent.

The following figures represent the proportion of the total population over 5 years of age, in two groups, 5–14 years and 15 years and over, who could read and write, or read only, in English or a foreign language, and the proportions unable to read :—

	1891.		1901.		1911.	
	Males.	Females.	Males.	Females.	Males.	Females.
Read and write—	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Ages 5–14 years	73·1	74·3	76·2	77·1	88·9	89·8
15 and over	92·4	92·2	94·0	95·3	97·0	97·7
Total, 5 and over	87·5	86·8	89·3	90·0	95·3	95·9
Read only—						
Ages 5–14 years	8·4	7·7	5·0	4·7	·3	·3
15 and over	2·4	3·7	1·4	1·8	·4	·5
Total, 5 and over	4·0	4·9	2·3	2·7	·4	·5
Unable to read—						
Ages 5–14 years	18·5	18·0	18·8	18·2	10·8	9·9
15 and over	5·2	4·1	4·6	2·9	2·6	1·8
Total, 5 and over	8·5	8·	8·4	7·3	4·3	3·6

The increase in the proportion of those who can read and write indicates the extension of educational facilities.

As to the age group, 6 and under 14 years, some further details are available to afford a comparison between the urban area of Sydney and suburbs, and the remainder of New South Wales, as at the census of 1911 :—

Children of School Ages. (6 and under 14 years.)	Sydney and Suburbs.		Remainder of State.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
Receiving Instruction—							
At School—							
Public	30,051	27,433	61,928	56,696	91,979	84,129	176,108
Private	9,086	11,436	10,021	11,893	19,107	23,329	42,436
Unspecified ...	1,345	1,301	2,464	1,978	3,809	3,279	7,088
Total	40,482	40,170	74,413	70,567	114,895	110,737	225,632
At home	373	694	3,063	3,497	3,436	4,191	7,627
Not recorded as receiving Instruction	2,757	3,131	8,817	9,671	11,574	12,802	24,376
Total	43,612	43,995	86,293	83,735	129,905	127,730	257,635

Of 24,376 children of ages 6 and under 14 years who were not recorded as receiving instruction 18,488 were resident outside the metropolitan area.

The following statement summarises the records in regard to children of statutory school age, as derived from the last three censuses :—

	Sydney and Suburbs.			Remainder of State.		
	1891.	1901.	1911.	1891.	1901.	1911.
At School—						
Public	44,448	53,876	57,484	103,783	118,476	118,624
Private	16,594	27,280	20,522	18,934	27,213	21,914
Unspecified ...	477	2,137	2,646	336	4,603	4,442
Under Instruction at home	1,590	1,773	1,067	9,173	10,982	6,560
Total receiving Instruction	63,409	85,066	81,719	132,226	161,279	151,540
Not recorded as receiving Instruction	2,972	3,561	5,888	13,235	13,896	18,488
Total	66,381	88,627	87,607	145,461	175,175	170,028

In 1901 children of compulsory school age were nearly one-sixth of the total population ; in 1911 they were more nearly one-seventh.

The following statement shows the figures in each group reduced to percentages of the total number of children of the statutory school age at each date :—

	Sydney and Suburbs.			Remainder of State.		
	1891.	1901.	1911.	1891.	1901.	1911.
At School—						
Public	20·98	20·42	22·31	48·99	44·91	46·04
Private	7·97	10·34	7·97	8·94	10·32	8·51
Unspecified ...	·23	·81	1·02	·16	1·75	1·72
Under Instruction at home	·75	·67	·41	4·33	4·16	2·55
Total receiving Instruction ...	29·93	32·24	31·71	62·42	61·14	58·82
Not recorded as receiving Instruction	1·40	1·35	2·29	6·25	5·27	7·18
Total	31·33	33·59	34·00	68·67	66·41	66·00

In the period between 1891 and 1911 there was a gain to the metropolitan area in the proportion of children of school age; there was also an increase in the proportion of the children attending public schools, and of the total receiving instruction. For the rest of the State there were proportionate decreases in the numbers receiving instruction, in all but the unspecified schools. The increases in the number of children "not recorded as receiving Instruction" are unsatisfactory features of the table.

THE STATE SYSTEM OF EDUCATION.

On the foundation of New South Wales as a British Colony, authority was given to the Governor to reserve 200 acres of land in the vicinity of each township to provide for the maintenance of a teacher. This plan was not followed, however, and for the first sixty years, from 1788 to 1848, education remained the province of private initiative. The first four teachers accredited in New South Wales were provided through the instrumentality of the Society for Promotion of the Gospel in Foreign Parts, the Society granting, at the urgent request of the Rev. R. Johnson, a sum of £40 per annum towards their salaries. The first school was opened at Parramatta in 1796, and most of the schools established subsequently were conducted under the auspices of religious bodies, the cost of their maintenance being met by voluntary subscriptions. From 1810, these subscriptions were supplemented by subsidy from the Government out of Customs Duties, and in 1834, one year after the Imperial Parliament made its first appropriation for elementary schools, the Government of New South Wales made a grant for the same purpose, and the money was distributed to the controlling religious bodies in proportion to the amount expended by them for educational purposes.

In 1839 a grant was authorised from the public funds of New South Wales to provide undenominational schools where required; little activity was evinced in this connection till 1848, when, following a recommendation made in 1844 by a Select Committee of the Legislative Council, an Act was passed authorising the incorporation of a Board of National Education to administer the appropriation for State undenominational education. At the same time a Denominational School Board was created, with one representative each from the Church of England, Roman Catholic, Presbyterian, and Wesleyan Churches, to distribute to the respective denominations the moneys allotted from the Treasury in support of their educational work.

This dual administrative control lasted from 1848 to 1866, and naturally induced a spirit of rivalry. The extension of National Schools was hampered by a regulation that one-third of the cost of building and equipment should be contributed by the applicants for such schools. In 1857, arrangements were made for the establishment and maintenance of schools not vested in the Board of National Education. These schools won a degree of public approval, and prepared popular sentiment for a more truly national administration.

Public Schools Act, 1866.

The Public Schools Act, 1866, which was operative from January, 1867, to 30th April, 1880, was devised as a measure "to make better provision for public education." A Council of Education of five members was constituted, in which were vested all the lands, moneys, securities, and personal property of the Board of National Education, all lands and school buildings held by trustees under the regulation and inspection of the Denominational School

Board as well as all personalty of the latter Board. The new Council was empowered to disburse all moneys appropriated by Parliament for elementary instruction, to establish and maintain public schools, to grant aid to certified denominational schools, and, subject to regulations, to define the course of secular instruction generally.

Four classes of schools were recognised, viz., Public, Denominational, Provisional, and Half-time ; while, for sparsely settled districts, itinerant teachers might be appointed, or private schools assisted, provided they were subject to inspection as prescribed by the Council. The Council was empowered to authorise a scale of fees to be charged in the public and in the certified denominational schools, but inability to pay such fees did not constitute a valid reason for excluding children from the schools.

Training schools for teachers were authorised ; Public School Boards were appointed to exercise local supervision ; four hours per school-day were reserved for secular instruction exclusively, and a maximum period of one hour per school-day was available for visiting religious teachers to impart religious instruction ; all existing national schools, vested and non-vested, were declared public schools.

On its establishment in 1867 the Council of Education assumed control over 259 national and 310 denominational schools. From 1875 the entire cost of building and maintaining public schools was defrayed from the public funds, and the number of schools increased so rapidly that in 1880, when the Department of Public Instruction was created, there were 1,220 schools under control, viz., public, 705 ; provisional, 313 ; half-time, 97 ; and denominational, 105 ; and a degree of standardisation had been attained.

Public Instruction Acts, 1880 and 1916.

The Public Instruction Act, 1880, marked a new era. Under it the powers and authority of the Council of Education were vested in a responsible Minister of the Crown, with power to disburse all moneys appropriated by Parliament for public instruction. The subsidies to certified denominational schools ceased, after due notice, on 31st December, 1882 ; an undenominational system of education was established as a public service, and attendance at school for a minimum period of 70 days in each half-year was declared obligatory, failing just cause of exemption, on all children between the ages of 6 and 14 years. The classes of schools to be established and maintained were defined as follows:—Public schools, primary and superior ; evening public schools ; and high schools for girls and for boys ; and the conditions in regard to provisional schools and itinerant teachers, as contained in the Public Schools Act, 1866, were retained but in amplified form, also other features of that Act, such as the allocation of hours of instruction, &c.

The Public Instruction Act, 1880, remains the basis of the educational system of the present day, though it was amended by the Free Education Act, 1906, and by the Public Instruction (Amendment) Act, 1916.

The Free Education Act provides that instruction in primary and superior public schools shall be free. Previously, the maximum fee chargeable in public primary schools was 3d. per week per child, with a limitation of 1s. per week for all the children of one family. Fees chargeable in higher schools were determined by regulation ; and, following the lead of the Free Education Act, 1906, amended regulations were issued making instruction in high schools also free from 1st January, 1911.

The Public Instruction (Amendment) Act, 1916, contains important provisions regarding compulsory school attendance, the certification of private

schools, and the inspection of school premises. The clauses of the Principal Act relating to compulsory attendance were repealed, and the statutory school age reduced by the exclusion of children between the ages of 6 and 7 years. Parents and guardians of children between 7 and 14 years must cause them to attend regularly at a State or certified school; if a child has been absent without sufficient cause for more than six half-days during three months, the parent becomes liable to prosecution. Exemptions may be granted to children receiving efficient instruction at home on at least 85 days in each half-year, and the onus of proof lies upon the parent or guardian; also to those over 13 years of age, who are certified as being educated to the standard required by the Principal Act, and to those residing in places where there is not adequate school accommodation within reasonable distance. Children, who habitually disobey the orders of parents and guardians to attend school, may be sent to an institution for the detention of truants.

At the direction of the Minister for Public Instruction, parents and guardians are required to furnish returns with regard to children of ages of 7 to 14 years.

Details relating to the certification of private schools are shown on a later page.

Development of Public School System.

In the period during which the Public Instruction Act, 1880, has been operative, numerous adjustments in organisation and procedure have been made to admit of educational development in consonance with changing ideals. In New South Wales a considerable proportion of the population is located in sparsely settled districts, and in virtual detachment from community life. On the other hand, an urban population is concentrated at a few points only. These two entirely diverse conditions of settlement complicate the difficulties of administering a general educational policy, by making the higher standards designed by the law unattainable except in large centres of population, and necessitating special adjustments of standards for isolated areas and pioneer settlements.

In these circumstances school accommodation has extended steadily, the immediate needs being supplied by the establishment of primary schools to which superior departments have been added as occasion arose, while high schools were established in the more populous districts of Sydney, Newcastle, and Maitland.

Realisation of the importance of thorough education led to a conference in 1902 of representatives of different interests in educational matters in New South Wales. In April of that year a Royal Commission of two members was appointed to proceed to Europe and America to inquire into existing methods of instruction in connection with primary, secondary, technical, and other branches of education, and to recommend for adoption whatever improvements might be introduced with advantage in New South Wales.

Extensive recommendations were made by the Commission, and a further Conference was held in 1904 to consider the question of State Education from every point of view. The plan of action embodied in the resolutions of this Conference involved the cessation of the pupil-teacher system, which had been operative in the public schools since 1852; the introduction of specially trained teachers, and for this purpose the equipment and maintenance of a Normal School, with a Practice School attached; the formation of a Kindergarten Training College, and of local training schools

for country-school teachers. The establishment of a Chair of Pedagogy at the University of Sydney, of truant schools, and schools for the feeble-minded was urged, and other resolutions involving alterations in matters of procedure in the public (primary) schools were adopted.

To accord with the new policy, a Syllabus of Instruction for Primary School Work was issued in 1905, with the grouping of subjects as follows :—

English.—Correct speech, reading, writing, spelling, composition, recitation, grammar.

Mathematics.—Arithmetic, mensuration, algebra, geometry.

Nature Knowledge.—Geography, object lessons, elementary science.

Civics and Morals.—History, Scripture, moral duties, citizenship.

Art Manual Work.—Drawing, brushwork, kindergarten exercises, modelling, woodwork, needlework.

Musical and Physical Education.

Since 1905 steady progress has been made in the co-ordination of educational effort in all stages. The regular school work has been extended, to include more manual and vocational training for boys, and better opportunities in domestic science for girls, emphasising the application of school work to the daily life of the citizen by means of special courses; progress has been made in school buildings; the question of playgrounds has received attention; medical inspection is conducted over extensive areas; and the increase of high school facilities expresses a desire to provide a higher standard of education.

The secondary school system has been extended greatly and a new syllabus, introduced in 1911, adopted in State High Schools, and in all the private schools registered under the Bursary Endowment Act. A system of examinations has been established to mark the completion of each stage of school work, and an Employment Bureau has been opened in the Department of Education for boys who continue their education beyond the primary stage.

Important statutory provisions affecting educational matters are contained in the Bursary Endowment Act, 1912, and in the University Amendment Act, 1912, concerning which details are given below.

The years 1913 and 1914 were marked by a wide extension of the scheme of medical school inspection; by the reorganisation of technical education upon a Trades School basis; and by the expansion of secondary education in the State Schools. During 1915 the syllabus of each type of school was revised, and new courses were commenced in the schools at the beginning of 1916.

STATE EXPENDITURE ON EDUCATION.

The expenditure of the Government on Education includes grants and subsidies to Educational and Scientific institutions, cost of maintenance of industrial schools and reformatories, as well as expenditure for premises, equipment, and maintenance of public schools; the aggregate has been increasing steadily during the past ten years. Relatively to the mean population the increase was almost imperceptible until 1907, but since that year there has been a distinct advance in all the items, particularly in the amount spent on schools and other buildings.

In the following statement, the expenditure on buildings, equipment, sites, &c., representing capital expenditure, has been distinguished as far as

practicable from expenditure for maintenance, including grants and subsidies, all of which constitute annual running costs :—

Year ended 30th June.	Expenditure.			Cost per head of population.
	Capital.	Annual.	Total.	
	£	£	£	s. d.
1906	42,937	933,640	981,577	13 3
1907	99,333	946,044	1,045,382	13 9
1908	132,753	1,058,864	1,191,617	15 5
1909	203,954	1,110,621	1,314,575	16 8
1910	159,890	1,148,520	1,308,410	16 3
1911	176,778	1,213,363	1,390,146	16 9
1912	185,710	1,419,234	1,604,944	18 5
1913	357,135	1,518,863	1,875,998	20 6
1914	258,836	1,640,679	1,899,515	20 5
1915	258,044	1,691,318	1,949,392	20 11

These figures are exclusive of amounts spent on the colleges, experiment farms, and societies for the promotion of agriculture and allied interests, concerning which reference should be made to the chapter on Agriculture. The following statement gives in more detail the expenditure for 1915; the largest item relates to the Public Schools of the State :—

Object.	Expenditure.	
	Capital.	Annual.
	£	£
Education Department, Schools, &c.	238,663	1,567,785
Educational Institutions, Schools of Arts, &c. ... ..	.....	6,139
University, and Affiliated Colleges	9,499	48,780
Sydney Grammar School ... ..	.....	1,500
Industrial Schools	958	9,199
Public Library ... ..	.....	11,637
Australian Museum ... ..	.....	9,897
Conservatorium of Music	1,616	1,782
National Art Gallery ... ..	.....	6,045
Observatory	4,308	3,301
Zoological Gardens, Taronga Park	3,000	.....
International Exhibitions ... ..	.....	18,556
Grants and Subsidies to various Societies ... ..	.....	6,727
Totals	£258,044	1,691,348

The major portion of the annual expenditure of the Government in connection with the promotion of educational interests is obviously for institutions which are under control of governmental or delegated officials, as in the case of the Department of Education, industrial schools, public library, &c. The University of Sydney, though a publicly endowed institution, was free from any measure of Governmental supervision until 1912, when the University Amendment Act was passed, under which the Government is represented on the Senate. Grants and subsidies to institutions, schools, and societies represent annual payments conditional upon satisfactory fulfilment of functions.

SCHOOLS AND TEACHING STAFFS.

The total number of public and private schools in operation at the end of each of the past ten years, and the aggregate teaching staff in each group, are shown in the following table:—

Year.	Schools.			Teaching Staffs.		
	Public.	Private.	Total.	In Public Schools.	In Private Schools.	Total.
1906	2,885	852	3,737	5,758	3,557	9,315
1907	2,918	806	3,724	5,918	3,524	9,442
1908	3,002	792	3,794	6,012	3,501	9,513
1909	3,075	789	3,864	6,176	3,633	9,809
1910	3,105	774	3,879	6,262	3,602	9,864
1911	3,125	756	3,881	6,517	3,659	10,176
1912	3,231	754	3,988	7,048	3,673	10,721
1913	3,285	733	4,018	7,261	3,593	10,854
1914	3,258	717	3,975	7,404	3,674	11,078
1915	3,254	718	3,972	7,890	3,682	11,572

These figures are exclusive of Technical Schools, the Sydney Grammar School, the Ragged, and Free Kindergarten Schools, the New South Wales Institution for the Deaf and Dumb and the Blind, Institutional schools under denominational control, Shorthand and Business Colleges, Agricultural Schools, &c. In 1906 there was, on the average, one school to 401 persons; in 1915 there was one school to 470 persons in the population of the State. Since 1906 there has been an increase of 369, equivalent to 13 per cent., in the number of public schools, and a decrease of 134, or 16 per cent., in the number of private schools.

The Teaching Staff per school was much greater for the Private Schools than for the Public, but the staffs of the Private Schools include a number of visiting teachers who do not devote their whole time to one school.

ENROLMENT.

A comparative review of the enrolment of children at Public and Private Schools is restricted to the last quarter in each year, as the figures collected in regard to Private Schools relate only to that period. The following statement shows the recorded enrolment of Public and of Private Schools for the December quarter during each of the last ten years:—

Year.	Enrolment (December Quarter).			Proportion of Total Children Enrolled.	
	In Public Schools.	In Private Schools.	Total.	In Public Schools.	In Private Schools.
				per cent.	per cent.
1906	207,298	58,707	266,005	77·9	22·1
1907	209,229	57,440	266,669	78·2	21·8
1908	214,495	57,111	271,606	79·0	21·0
1909	213,739	58,361	272,100	78·6	21·4
1910	214,776	59,247	274,023	78·4	21·6
1911	221,810	60,963	282,773	78·4	21·6
1912	228,529	61,744	290,273	78·7	21·3
1913	241,784	64,591	306,375	78·9	21·1
1914	252,697	64,577	317,274	79·6	20·4
1915	258,017	64,863	322,880	79·9	20·1

During the first half of the period under review the total enrolment increased very slowly. Latterly, however, there is an appreciable advance, so that the figures for 1915 are 21 per cent. above those for 1906.

The ratio of enrolment of children in Public and Private Schools for the various years of the decade remains fairly constant, varying from 77.9 in 1906 to 79.9 in 1915 in the case of the former, and from 22.1 in 1906 to 20.1 in 1915 in that of the latter.

The figures relating to enrolment are exclusive of the Evening Continuation Schools, the Sydney Grammar School for Boys, Business and Shorthand Schools, the School held in connection with the Deaf and Dumb and Blind Institution, the Ragged Schools, and Free Kindergarten Schools, Institutional Schools under denominational control, Agricultural and Technical Schools, &c.

AVERAGE ATTENDANCE.

In the following comparison the average quarterly enrolment and the average attendance for Public Schools are derived from the rolls for all quarters of the year, not for the December quarter only. The pupils attending Subsidised Schools are not included for the year 1906. For Private Schools the ratio is on the December quarter for the year 1906, and on the average daily attendance during the whole year for the remaining years of the period reviewed :—

Year.	Public Schools.			Private Schools.		
	Average Quarterly Enrolment.	Average Attendance during the year.	Ratio of Attendance to enrolment.	Enrolment, December Quarter.	Average Attendance.	Ratio of Attendance to enrolment.
			per cent.			per cent.
1906	207,741	151,261	72.8	58,707	46,942	80.0
1907	213,709	152,608	71.4	57,440	46,697	81.3
1908	216,747	155,997	72.0	57,111	48,203	84.4
1909	218,248	160,080	73.3	58,361	48,792	83.6
1910	218,539	157,498	72.1	59,247	49,351	83.3
1911	223,603	160,776	71.9	60,963	51,569	84.6
1912	235,803	171,028	72.5	61,744	51,168	82.9
1913	245,819	178,028	72.4	64,591	54,305	84.1
1914	258,562	190,194	73.6	64,577	55,431	85.8
1915	265,446	194,244	73.2	64,863	55,163	85.0

The quarterly enrolment, as the standard for comparison of children under tuition, and, by means of the average attendance, of the degree of constancy in the education of children, is an unsatisfactory test.

The weekly roll is clearly a better test, inasmuch as it more nearly approaches the basis (daily) on which the average attendance is computed; but preferably the average attendance of scholars should be compared with the total children who can be regarded as in need of education. Such comparison may be seen in the following statement which shows, for the last

ten years, the average attendance at Public and Private Schools in comparison with the estimated numbers of children requiring education :—

Year.	Estimated children of school age. (6 and under 14).	Other Children under and over school age on roll.	Total Children requiring education.	Average Attendance Public and Private Schools.	Proportion per cent. attending school.
1906	262,500	41,436	303,936	198,203	65·2
1907	260,800	43,111	303,911	199,505	65·6
1908	259,400	42,551	301,951	204,200	67·6
1909	259,200	43,242	302,442	208,872	69·1
1910	257,900	44,364	302,264	206,849	68·4
1911	260,800	43,979	304,779	212,345	69·7
1912	264,700	44,992	309,692	222,196	71·7
1913	271,300	45,293	316,593	232,333	73·4
1914	278,200	46,356	324,556	245,625	75·7
1915	286,200	46,689	332,889	249,407	74·9

The figures in this table are exclusive of Technical schools, Sydney Grammar School, charitable schools, and shorthand and business schools and colleges, &c.

AGE DISTRIBUTION OF PUPILS.

The age-distribution of pupils enrolled at schools during the last ten years is shown in the following table. The figures represent the December quarter enrolment and are exclusive of Evening Continuation Schools :—

Year.	Public Schools.				Private Schools.			
	Under 6 years.	6 years and under 14.	14 years and over.	Total.	Under 6 years.	6 years and under 14.	14 years and over.	Total.
1906	8,284	179,844	19,170	207,298*	4,972	44,784	8,951	58,707
1907	8,535	181,104	19,590	209,229	4,859	43,180	9,401	57,440
1908	8,839	185,789	19,867	214,495	4,839	43,549	8,723	57,111
1909	9,312	185,166	19,261	213,739	5,007	44,293	9,061	58,361
1910	9,965	185,519	19,292	214,776	5,180	44,652	9,415	59,247
1911	10,603	192,740	18,467	221,810	5,247	46,193	9,523	60,963
1912	10,002	200,260	18,267	228,529	5,279	47,555	8,910	61,744
1913	10,663	211,742	19,379	241,784	5,706	49,340	9,545	64,591
1914	11,165	221,046	20,486	252,697	5,344	49,872	9,361	64,577
1915	11,120	226,222	20,675	258,017	5,498	49,969	9,396	64,863

* Exclusive of Children at Subsidised Schools.

RELIGIONS.

A comparative view of the aggregate enrolment in all schools (public and private) for the December quarter during the last ten years, is given hereunder, and the figures, being on the same planes of comparison for each

year, may be accepted as illustrative of the progression of each type of school during the period :—

Year.	Total Enrolment all Schools.	Public Schools— Denomination of Children.					Private Schools— Denomination of Schools.		
		Church of England.	Roman Catholic.	Presbyterian.	Methodist.	Other.	Church of England.	Roman Catholic.	Other.
1906	266,005	108,497	30,636	24,207	28,866	15,092	3,922	42,106	12,679
1907	266,669	109,306	31,436	24,453	28,954	15,080	3,434	42,005	12,001
1908	271,606	112,728	32,209	24,913	29,581	15,064	3,415	42,295	11,401
1909	272,100	113,019	31,190	24,941	29,582	15,007	3,308	43,615	11,438
1910	274,023	114,677	30,937	25,021	29,640	14,501	3,500	44,249	11,498
1911	282,773	118,794	31,044	26,347	30,595	15,030	3,297	46,097	11,569
1912	290,273	123,190	31,313	26,992	31,768	15,266	3,347	46,778	11,619
1913	306,375	131,052	32,553	28,601	33,499	16,079	3,533	49,580	11,478
1914	317,274	136,812	33,628	29,783	35,678	16,796	3,644	50,434	10,499
1915	322,880	139,317	33,953	30,357	36,807	17,578	3,619	51,369	9,875

Taking the total enrolment as 100, following are the proportionate values under each head of the table given above :—

Year.	Public Schools— (Denomination of Children).					Private Schools— (Denomination of Schools).		
	Church of England.	Roman Catholic.	Presbyterian.	Methodist.	Other.	Church of England.	Roman Catholic.	Other.
	%	%	%	%	%	%	%	%
1906	40.79	11.52	9.10	10.85	5.67	1.47	15.83	4.77
1907	40.99	11.79	9.17	10.86	5.65	1.29	15.75	4.50
1908	41.50	11.86	9.17	10.89	5.55	1.26	15.57	4.20
1909	41.54	11.46	9.17	10.87	5.51	1.22	16.03	4.20
1910	41.85	11.29	9.13	10.82	5.29	1.28	16.15	4.19
1911	42.01	10.98	9.32	10.81	5.32	1.17	16.30	4.09
1912	42.44	10.79	9.30	10.91	5.26	1.15	16.12	4.00
1913	42.77	10.63	9.31	10.93	5.25	1.15	16.18	3.75
1914	43.12	10.30	9.39	11.24	5.29	1.15	15.90	3.31
1915	43.15	10.52	9.40	11.40	5.44	1.12	15.91	3.06

It will be noticed that in the public school figures the column headings indicate the denomination of the children, and in the private school figures the denomination of the schools. In the former case the denomination of the child is ascertained, but not in the latter, and the pupil, although attending a school of stated denomination, is not necessarily to be considered of that denomination. It may be assumed, however, for purposes of comparison, that on the whole the religion of the child accords with that of the denomination of the private school he is attending.

As to the children of the Church of England, its constituent percentages of the total children enrolled in the State were:—

Year.	Ratio to Total Children Enrolled in all Schools.		
	Church of England Children in Public Schools.	Children in Church of England Schools.	Total.
	%	%	%
1906	40·79	1·47	42·26
1907	40·99	1·29	42·28
1908	41·50	1·26	42·76
1909	41·54	1·22	42·76
1910	41·85	1·28	43·13
1911	42·01	1·17	43·18
1912	42·44	1·15	43·59
1913	42·77	1·15	43·92
1914	43·12	1·15	44·27
1915	43·15	1·12	44·27

The percentage of Church of England children in public schools increased from 41·06 in 1905 to 43·15 in 1915, and the proportion in the denominational schools has been constant during the whole period. Of the Church of England children attending school, $2\frac{1}{2}$ per cent. attend their own denominational schools.

As to the Roman Catholic children, the figures appear as follows:—

Year.	Ratio to Total Children Enrolled in all Schools.		
	Roman Catholic Children in Public Schools.	Children in Roman Catholic Schools.	Total.
	%	%	%
1906	11·52	15·83	27·35
1907	11·79	15·75	27·54
1908	11·86	15·57	27·43
1909	11·46	16·03	27·49
1910	11·29	16·15	27·44
1911	10·98	16·30	27·28
1912	10·79	16·12	26·91
1913	10·63	16·18	26·81
1914	10·60	15·90	26·50
1915	10·52	15·91	26·43

In the percentage attending public schools, the rates showed a tendency to decline; the proportion in the denominational schools remained fairly constant at about 16 per cent. The Roman Catholic children at present attending the schools of their own denomination represent 60 per cent. of the total Roman Catholic enrolment.

Religious Instruction in State Schools.

A provision of the Public Instruction Act, 1880, retained from the Public Schools Act, 1866, reserves a maximum period of one hour in each school day, during which religious instruction may be given to scholars in State schools by visiting ministers and teachers of religious bodies; and the following table indicates the number of lessons in special religious instruction during the past five years:—

Denomination.	Number of Lessons.				
	1911.	1912.	1913.	1914.	1915.
Church of England	26,101	27,229	30,958	35,373	35,342
Roman Catholic	711	887	833	1,086	1,358
Presbyterian	7,452	8,074	7,922	8,313	8,485
Methodist	8,800	9,956	10,914	12,455	12,353
Other Denominations	5,536	6,737	6,694	7,472	7,326
Total	48,600	52,883	57,321	64,699	64,864

THE STATE SCHOOLS.

Annual Expenditure.

The following statement shows the expenditure by the Department of Education in each calendar year since 1906, for maintenance, administration, and building, on account of primary and secondary public day schools and technical schools:—

Year.	Primary and Secondary Schools.					Technical Education.	
	Maintenance and Administration.				Sites, Buildings, and Repairs.	Maintenance and Administration.	Land and Building, including Repairs.
	Rent and Rates.	Maintenance and Salaries.	Administration and Training.	Total.			
	£	£	£	£	£	£	£
1906	8,570	737,041	54,565	800,176	81,405	26,879	...
1907	10,965	758,131	60,817	829,913	92,382	33,569	187
1908	7,342	873,748	64,557	945,647	139,373	40,896	10,918
1909	17,445	877,916	66,324	961,685	148,254	45,489	15,963
1910	18,657	911,641	71,711	1,002,009	189,704	49,293	16,430
1911	19,494	967,900	80,683	1,068,077	174,499	51,473	10,393
1912	18,875	1,191,743	93,666	1,304,284	285,702	65,433	17,466
1913	22,880	1,211,920	106,405	1,341,205	344,950	53,932	63,803
1914	24,462	1,269,835	179,979	1,474,276	247,165	57,308	2,681
1915	26,443	1,283,919	183,052	1,493,414	193,468	59,935	4,568

These figures represent governmental expenditure only. In regard to Technical Education, it is necessary to note that fees paid by students constitute a considerable item of receipt in each year. Fees in primary schools were abolished as from 8th October, 1906, and High School fees from 1st January, 1911.

Throughout the period quoted, the item of rent paid on account of public day schools has fluctuated between £1,300 and £2,700 per annum approximately. Rates constitute the greater part of the amount shown under the heading of rent and rates, and include water and sewerage rates.

The expenditure on land and buildings in the Technical Education branch for the year 1913, included the cost of resumption of land adjoining the Central College.

The figures given above represent the annual normal expenditure. To estimate the total cost of State school education during any year would necessitate investigation of the capital value of buildings and equipment, the rate of depreciation to be allowed, &c. At the present time the Department of Education has not the necessary data to give an exact valuation, but the latest approximate estimated value of the Departmental properties, including the sites, is £2,400,000.

The relative cost per child enrolled is shown in the following table for a series of years, also the cost per head of population :—

Year.	Net School Expenditure.		
	Per Child.		Per head of Population.
	Mean Quarterly Enrolment.	Average Attendance.	
	£ s. d.	£ s. d.	s. d.
1905	3 12 6	4 19 9	10 5
1910	5 8 9	7 10 10	14 8
1911	5 11 2	7 14 7	14 11
1912*	6 14 10	9 5 11	18 3
1913	6 17 2	9 9 5	18 7
1914	6 13 2	9 1 0	18 7
1915	6 7 1	8 13 8	18 1

*Includes increased salaries paid to the teachers for previous year.

Distribution of Expenditure.

The following statement shows, in comparative form, the distribution of expenditure (exclusive of rates) in connection with primary and secondary schools under the Department of Education in 1914 and 1915 :—

	1914.	1915.
	£	£
School premises	271,627	219,911
Maintenance of Schools—		
Teachers' salaries and allowances	1,143,803	1,176,424
Travelling expenses	12,676	10,420
Forage allowances	3,985	3,479
School fuel allowances	2,396	2,568
Cleaning allowances	31,313	34,958
Materials	35,029	27,867
Miscellaneous expenses	35,633	28,203
Training of teachers	42,918	39,809
Bursary Endowment Board	14,739	13,815
Administration—		
General management	79,908	84,961
Inspection	32,538	31,779
Chief Medical Officer's Branch	9,826	12,688
Total	1,721,441	1,686,882

SCHOOL ACCOMMODATION, SITES, AND PLAYGROUNDS.

There was accommodation in the schools at the end of 1911 for 228,253 children, and at the end of 1915 for 265,879; a comparison of the latter number with the average attendance at the present time shows that there is, on the whole, ample space in the school buildings to meet requirements. On the basis adopted in 1908 in regard to school buildings, 150 cubic feet of air space are required per child, though under the Public Instruction Act,

the minimum apportionment of space inside a public school building, is 100 cubic feet for each child ordinarily in attendance. In recent years, Departmental expenditure for building has been far in excess of that for earlier years, and progress has been made in the work of remodelling existing buildings; effecting improvements in lighting, ventilation, and general sanitation; erecting science, cookery, and manual-training rooms; and providing assembly-halls and supplying furniture of modern type.

During 1915, 367 works, valued at £198,720 exclusive of sites, were completed for new schools, residences, additions, and alterations, and there were 191 works in progress at the end of the year. Omitting the value of the sites, the total cost of these buildings under construction is estimated at £199,590.

During 1915, 79 sites for public schools were vested in the Department. Of these 43 were grants of Government lands, 17 were resumed, 14 purchased, 2 conveyed as gifts, and 3 were secured under perpetual leasehold within the Murrumbidgee Irrigation Area.

In the city and suburban area the question of adequate ground space in connection with the public schools is complicated by the high resumption values involved, and the authorities controlling some of the metropolitan and suburban parks have given assistance to the Education Department in the establishment of "Park Kindergartens."

SCHOOL FURNITURE AND EQUIPMENT.

In April, 1913, a furniture factory in Drummoyne was purchased by the Department of Education at a cost of £14,500; this establishment replaces workshops at Cockatoo Island which had been resumed by the Commonwealth Government. The factory provides practically the whole of the furniture required in the schools; the output includes portable class-rooms, also various articles of furniture for the Departmental offices.

School books and other materials for use at school are issued free of charge to pupils of State schools.

STATE PRIMARY AND SECONDARY SCHOOLS.

The number of State schools open at the end of each of the last ten years is shown in the following statement:—

Year.	High.	Public.	Provisional and Half-time.	House-to-house and Travelling.	Subsidised.	Evening.		Industrial and Reformatory.	Total Schools open at end of year.
						Primary.	Continuation.		
1906	5	1,908	730	10	193	34	...	3	2,885
1907	5	1,927	721	9	220	33	...	3	2,918
1908	5	1,941	727	9	284	33	...	3	3,002
1909	5	1,949	729	12	344	33	...	3	3,075
1910	5	1,950	740	9	362	36	...	3	3,105
1911	8	1,915	746	6	414	16	18	2	3,125
1912	12	1,942	739	6	489	3	41	2	3,234
1913	15	1,975	709	7	529	1	47	2	3,285
1914	16	1,997	669	4	523	1	46	2	3,253
1915	17	1,965	671	4	548	...	47	2	3,254

The number of schools open at any time during the year does not coincide with the number open at the end of that year, as with variations in population, changes are being made constantly in the classification of schools opened, and new schools are established or existing schools closed,

The continuous demands for new schools in freshly settled districts, remote from towns, account in great measure for the increase in the number of subsidised schools.

The following table affords a comparison between the number of State schools in operation in 1881, the first full year in which the Department of Education was under immediate ministerial control, and the numbers open at later periods; the figures represent the gross number of schools in operation during the year:—

Type of School.	Schools in operation during year.					
	1881.	1891.	1901.	1911.	1914.	1915.
High ... ..	...	5	4	8	16	17
Public, Primary and Superior Day	1,100	1,697	2,049	1,945	2,003	1,992
Provisional	246	349	428	514	520	520
Half-time	93	300	276	303	273	219
House-to-house and Travelling ...	...	92	20	6	7	5
Subsidised ... ..	...	...	...	494	664	675
Evening, Primary	57	14	41	24	1	1
„ Continuation ... ..	...	...	...	18	51	49
Industrial and Reformatory ...	2	3	4	3	2	2
Total	1,498	2,460	2,822	3,315	3,537	3,480

Consolidation of Small Schools.

In 1904 the consolidation of small schools was initiated, the Department of Education granting a subsidy for the conveyance, to central schools, of children attending various small schools. The advantages of this system are that better buildings and equipment, as well as a larger teaching staff, can be provided, and a wider range of instruction imparted. The number of central schools and the cost of conveyance of children to them are shown in the following statement for the last ten years:—

Year.	Schools.	Cost of Conveyance. £	Year.	Schools.	Cost of Conveyance. £
1906	17	1,802	1911	80	4,650
1907	33	2,812	1912	111	5,859
1908	47	3,280	1913	162	6,719
1909	51	3,713	1914	190	7,844
1910	63	3,967	1915	202	7,541

PRIMARY SCHOOLS.

Primary work in its various stages is undertaken in schools classified broadly in two groups—(a) Primary and Superior Schools in more or less populous centres, and (b) schools in isolated and sparsely settled districts, viz., Provisional, Half-time, House-to-House, and Subsidised Schools.

House-to-house teaching is restricted generally to English and mathematics.

In Half-time schools, one teacher divides his time between two schools, so arranging that homework and preparatory study will occupy the time of the pupils in the absence of the teacher. The course of instruction follows that of full-time schools.

Classification of Primary Schools.

Public primary schools are classified according to average attendance, and in the largest schools there are separate departments for infants (up to about age 8), for boys, and for girls.

In the classification of schools, made in January of each year, the schools were graded as follows, each pair of Half-time schools being counted as one :—

Class.	Average Attendance.	Schools.				
		1912.	1913.	1914.	1915.	1916.
I	600 and over	70	73	74	79	77
II	400-599	35	31	34	32	34
III	200-399	86	93	91	98	92
IV	50-199	375	383	412	418	395
V	30-49	599	578	555	559	355
VI	20-29	429	510	533	540	530
VII	Under 20	931	879	861	828	1,050

Evening Primary Schools.

For some years Evening Primary Schools for boys had been open in localities where there was a definite demand for such schools, to enable students to make good deficiencies in early education. Since 1911 these schools have been replaced by the Evening Continuation Schools, the last being closed in 1915.

Subsidised Schools.

For the education of children resident in places remote from any State schools, the Subsidised School was instituted in 1903. The conditions upon which aid is granted are that two or more families must combine to engage a private teacher, who, after approval of the Minister as to qualifications, receives, if in the Eastern portion of the State, a subsidy at the rate of £5 per pupil per annum, the maximum amount being £50 per school; and if in the Western portion, a subsidy of £6 per pupil per annum the maximum per school being £60. A subsidy may be granted to any family, with not less than four children of school age, living in complete isolation. Subject to certain conditions, subsidy at the stipulated rates may be paid as an aid towards boarding children in a township for the purpose of attending a public school. The amount paid towards salaries of teachers of subsidised schools for the year 1915 was £20,424,

Particulars relating to Subsidised Schools for December Quarter of the last ten years are shown hereunder :—

Year.	Teachers.			Pupils.						Attendance per cent. of Enrolment.
				Quarterly Enrolment.			Average Attendance.			
	Males.	Females.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	
1906		195	195	969	915	1,884	694	691	1,385	75.5
1907		220	220	926	883	1,809	747	712	1,459	80.6
1908	37	247	284	1,281	1,267	2,548	1,039	1,039	2,078	81.5
1909	35	309	344	1,598	1,581	3,179	1,294	1,299	2,593	81.5
1910	38	324	362	1,710	1,761	3,471	1,394	1,437	2,831	81.5
1911	39	386	425	1,862	1,807	3,669	1,521	1,502	3,023	82.3
1912	50	439	489	2,025	1,975	4,000	1,885	1,604	3,489	87.2
1913	63	466	529	2,368	2,213	4,581	1,940	1,853	3,793	82.8
1914	59	464	523	2,368	2,299	4,667	1,921	1,886	3,807	81.5
1915	38	510	548	2,512	2,341	4,853	2,001	1,927	3,928	80.9

During 1912, regulations and arrangements were made whereby subsidised school teachers could be examined, certified, and registered on passing the examination, the Department furnishing the names of such registered teachers to parents requiring their services.

Travelling Schools.

In order to supply means of education for families so isolated that even two could not readily combine to form a Subsidised School, Travelling Schools have been established. The first commenced operations in the Narrabri district in 1908; the teacher was provided with a vehicle to carry school requisites, and a tent for use as a schoolroom, in which to teach for a week at a time at each centre in his circuit. Two additional travelling schools have since been established.

Railway Camp Schools.

Another form of the travelling school is established in connection with extensive railway construction works, where Railway Camp Schools render educational facilities available to the children of the men engaged on the works. These schools are conducted in tents with specially-designed furniture, and are moved with the railway camps from place to place.

SCHOOLS IN FEDERAL CAPITAL TERRITORY.

An arrangement has been made by the Commonwealth and State Governments, by which the Department of Education continues to administer the Public Schools in the Federal Capital Territory. Buildings are erected, equipped, and maintained, and the general provisions of the Public Instruction Act of New South Wales are enforced. Teachers are subject to classification, status, and transfer on an equal footing with State School teachers. Should the Commonwealth demand teachers of higher qualifications than is provided in ordinary circumstances, the rates of payment will be determined jointly by the Administrator and the State Education Department.

The subjoined statistics of the Federal Capital Territory have been included in the foregoing tables relating to State Schools :—

Year.	Schools.	Teachers.			Gross Enrolment.			Expenditure.
		M.	F.	Total.	Boys.	Girls.	Total.	
1911	14	10	4	14	178	170	348	£ 1,593
1912	12	9	3	12	177	164	341	2,473
1913	11	9	2	11	168	149	317	1,914
1914	14	11	3	14	213	207	420	2,238
1915	14	10	5	15	247	244	491	2,560

SECONDARY EDUCATION IN STATE SCHOOLS.

Provision is made in State Schools for education beyond the primary stage in Superior or Continuation, District, and High Schools, and in Technical Schools and Colleges. The number of pupils who received secondary education

in 1914 and 1915 is shown below ; the figures are exclusive of those in the schools of the Technical Education Branch, which are discussed on a later page :—

Schools.	1914.			1915.		
	Schools.	Total Enrolment.	Average Attendance.	Schools.	Total Enrolment.	Average Attendance.
High	16	4,096	3,332	17	4,971	4,037
Intermediate High ...	5	1,124	826	4	948	707
District	22	1,802	1,213	21	2,202	1,552
Superior Public (Day Continuation)—						
Commercial	30	1,808	943	29	1,896	1,018
Junior Technical ...	20	945	499	21	1,133	574
Domestic	43	1,836	934	41	2,031	1,021
Total... ..	136	11,611	7,747	133	13,181	8,909

In addition to the above Superior Public (Day Continuation) Schools, there are other Public Schools in which the course of study for certain subjects is the same as for the first and second year's course in the High School Syllabus, but no statistics of enrolment nor of attendance are available.

Superior and Day Continuation Schools.

Any Public School may be declared a Superior School if there is in one department a minimum attendance of 20 pupils who have completed the primary course.

Until 1912 the Superior Schools continued the work of the primary syllabus with such additional subjects as would enable pupils to compete at public examinations, but it was found desirable to reorganise these schools upon a vocational basis, and many of them have been converted into Day Continuation Schools.

In the Day Continuation Schools a two-years course is provided for pupils who do not remain at school long enough to complete the High School course, but who desire special instruction to fit them for industrial or commercial pursuits. The schools are organised as (1) Junior Technical (boys), which supply preliminary groundwork for industrial career, the course of study being fundamental to that of the Trades Schools of the Technical Education system ; (2) Commercial for boys and girls, where the curriculum includes shorthand, book-keeping, business principles, &c. ; (3) Domestic for girls, the special subjects being those relating to home management.

In the Superior Schools which have not been organised as Day Continuation, the course of instruction is similar to that of the first and second year of the High School. A proposal is under consideration to consolidate many of the Day Continuation Schools in the metropolitan and Newcastle districts by the establishment of central schools.

Evening Continuation Schools.

Prior to the year 1910 Evening Schools were maintained, to afford instruction to those who had not had the full advantage of primary education. But in order to satisfy the imperative demand for an Evening-School system for pupils who had completed their primary school work, and were engaged

in wage-earning processes during the day, it became necessary to modify and adjust the Evening-School organisation. Consequently, the Evening Schools now supply two distinct types of training—(a) the Primary Schools, to complete elementary education, (b) the Continuation Schools, to provide instruction on special lines for persons engaged in daily employment.

In January, 1911, the Director of Education was entrusted with a commission to inquire into the working of Continuation Schools in Great Britain and Europe, and to recommend for adoption whatever improvements might be of advantage in New South Wales. Following his report, issued in 1911, Evening Continuation Schools were organised, and Evening Primary Schools, were converted into Continuation Schools.

The latter schools are classified as Junior Technical, Commercial, or Domestic; for those pupils who are not qualified to enter upon the two years' courses, preparatory courses of one year's instruction in primary school subjects may be established in each school.

The fee charged is 6d. per week; but on completion of a satisfactory attendance in each year, the amount paid may be returned to the student. The average age of pupils attending the Preparatory Schools was 16 years, and for the other Evening Continuation Schools, 18 years.

The following is the record of these Evening Continuation Schools for the years 1914 and 1915:—

Classification.	1914.			1915.		
	Schools.	Pupils.		Schools.	Pupils.	
		Average Quarterly Enrolment.	Average Quarterly Attendance.		Average Quarterly Enrolment.	Average Quarterly Attendance.
Junior Technical (boys) ...	18	1,437	816	17	1,254	705
Commercial (boys) ..	19	1,350	1,013	19	1,692	991
Preparatory	2	57	29	1	50	25
Domestic (girls)	8	709	395	10	672	382
Total	47	4,053	2,253	47	3,668	2,103

In connection with the Continuation School system the question of compulsory attendance has been the subject of much discussion.

HIGH SCHOOLS.

The High Schools provide four years' course of advanced education for pupils who have completed the primary course. No fees are charged; and, since the beginning of 1916, text books and materials have been provided free. To gain admission pupils must complete the primary course, and the parents are required to give an undertaking that the pupils will remain at school till the completion of the whole course. A new syllabus was introduced into the High Schools at the beginning of 1911; in addition to a general course leading to professional studies at higher institutions, the Technical High School gives preparation for engineering and building professions, and the Agricultural High School accommodates students for pastoral pursuits and for admission to the Agricultural College. The Intermediate Certificate which marks the completion of the first two years' course in these schools, must be obtained before the pupil is allowed to proceed with the work of the third year; the Leaving Certificate is awarded at the termination of the course. At the Intermediate High Schools an abbreviated course of advanced study leading to the Intermediate Certificate is provided.

The following particulars relate to High Schools during the last ten years :—

Year.	High Schools.	Teachers.			Pupils.			Holders of—		Fees received.	Cost per head of enrolment.
		M.	F.	Total.	Enrolment.		Attend- ance. Daily av'rage.	Bur- saries.	Scholar- ships.		
					Total.	Av'rage Q'terly.					
										£	£ s. d.
1906	5	21	13	34	917	723	670	126	143	3,350	4 19 5
1907	5	23	12	35	908	739	669	129	149	3,617	6 9 7
1908	5	24	17	41	969	811	728	143	196	3,702	6 5 4
1909	5	25	16	41	1,035	875	786	151	220	3,703	6 5 6
1910	5	29	19	48	1,168	894	826	162	246	3,575	7 13 3
1911	8	59	33	97	2,293	1,864	1,786	201	250	...	10 6 10
1912	12	95	51	146	3,002	2,714	2,392	470	781	...	8 11 1
1913	20*	154	97	251	4,714	4,178	3,623	499	821	...	14 13 4
1914	21*	159	112	271	5,220	4,685	4,170	552	1,029	...	15 11 0
1915	21†	165	134	299	5,919	5,334	4,740	636	1,733	...	16 9 5

* Includes 5 Intermediate. † Includes 4 Intermediate.

Since the reorganisation of the secondary course the number of High Schools has increased from 5 in 1910 to 21, including 4 Intermediate in 1915; the average quarterly enrolment has risen from 894 to 5,334; the number of pupils holding bursaries and scholarships from 408 to 2,369, and the cost per scholar has been doubled. This development may be attributed to the abolition of fees, dating from 1st January, 1911, and to the extension of scholarships and bursaries, as described below.

DISTRICT SCHOOLS.

In country centres where the enrolment of secondary pupils is not sufficient to warrant the establishment of a separate High School, "District" Schools have been established as a "top" to the local Primary School. These schools have special staffs, and the higher classes undertake the secondary course of instruction as followed in High Schools. At the close of 1915, twenty-one of these schools were in operation, the average weekly enrolment of secondary pupils being 978 boys and 750 girls, and the average attendance was 882 boys and 670 girls.

STATE SCHOOL TEACHERS.

Training.

Until the year 1905 the teaching staff of the State Schools was recruited by means of the pupil-teacher system, under which boys and girls commenced between the ages of 14 and 16 years, with the control and instruction of a certain number of children; in return for their services they received, in addition to a small salary, instruction and practical advice from the principals of the schools where they were employed. After four years' service, marked by annual examinations conducted by the Department of Education, a limited number who passed the qualifying examinations were admitted to a course at the Training College—men at a non-residential institution in connection with Fort-street Model School, and women at Hurlstone College, where residence was provided. On completion of the course, trainees were classified as teachers.

Pupil-teachers who did not enter the training schools were appointed as assistants, or placed in charge of small schools; and after a probationary service were allowed to compete for classification on the same footing as the trained teachers. A number, practically untrained, entered the service as teachers of small schools in outlying districts, and became eligible for classification.

As this system proved inadequate for maintaining an efficient and well-trained body of teachers, it was decided in 1905 to make proper provision for the training of teachers. The training schools at Hurlstone and Fort-street were closed, and a general training college was established in connection with Blackfriars Public School. The admission of pupil teachers was continued until the supply of trained teachers became sufficient to meet requirements, but at the end of 1910 they had been entirely replaced.

The ordinary course at the Teachers' College extends over two years, and qualifies for teaching in the various classes of primary and infant schools, and on its completion students may qualify for second-class certificates. Those who elect to withdraw at the end of the first year are eligible for third-class certificates. A period of practical work must be accomplished satisfactorily before classification is awarded. Third-year and special courses are arranged with reference to the departmental requirements and capabilities of individual students.

The first-year courses include terms in the College and in the University for matriculated students who take also the professional parts of the College course, and professional work for students who have graduated before entering the College. The second-year courses are (1) the ordinary College, (2) Kindergarten and Infants'-school, to meet the requirements of teachers of young children, (3) Domestic Science, (4) University for students who have matriculated in their first and second College year, (5) Hawkesbury College for students preparing for work in rural schools. The last-mentioned students reside at the Hawkesbury Agricultural College and use the Public School at Richmond as a practice school; during the winter vacation they attend short terms of lectures at the Teachers' College. Evening Extension Courses in Kindergarten and Infant Teaching are provided, and these require attendance at the College on three evenings each week.

To obviate the necessity of admitting untrained teachers into the Service, short courses of training have been established for rural school teachers and assistants at Hereford House School, which was opened in 1911 as an adjunct to the Teachers' College. This training extends over six months, and about 200 teachers attend in each year, but it is considered advisable to extend the period to twelve months if possible.

The fees for training courses are as follows: Six months, £7 10s.; one, two, and three year courses, £15 per annum for those taking both general and professional subjects; fees are returned to students who enter the service of the Department of Education. For Evening Courses the fee is £3.

Professional training is conducted at three Demonstration Schools—Blackfriars, North Newtown, and Darlington—and departments have been secured in several other schools for practical work in connection with the Teachers' College.

The minimum age of admission to the College is 17 years, so that intending students must remain at school for three years beyond the primary school age, and provision has been made for their admission as probationary students to a preparatory course in District or High Schools in the principal centres throughout the State.

In addition to the teachers trained by the Department of Education qualified teachers are admitted from outside the service; those appointed to

primary schools are placed on probation for six months, and those appointed to secondary schools, if requiring additional professional training, must take the University course leading to the Diploma in Education.

A portion of land within the Sydney University having been acquired as a site for the Teachers' College, the erection of the building was commenced in 1914. When the new College is completed, it will provide training for teachers for private secondary and primary schools, as well as for the State service.

In 1915, 783 students were enrolled at the Teachers' College; this number includes 31 who had enlisted in the Australian Expeditionary Forces :—

Students.	Men.	Women.	Total.	Number holding Scholarships.
First year	36	114	150	147
Second year	29	135	164	164
Third year	15	19	34	33
Fourth year	2	1	3	3
Short course	136	239	375	375
Special travelling	1	...	1	1
Evening students ... ..	...	24	24	...
Cookery '... ..	...	6	6	6
Artisan	26	...	26	25
Total	245	538	783	754

During 1915 a number of artisans selected for appointment as teachers of wood or metal work in primary and continuation schools attended the College for a course of professional training.

Particulars of scholarships tenable by students of the Teachers' College are shown on a later page.

The staff of the College consists of a Principal, Vice-Principal, 32 lecturers, 6 visiting lecturers, and 6 supervisors of Practice teaching, a warden of women students, and 4 clerical and library assistants. Members of the teaching staff are afforded opportunities to study abroad, and leave of absence, on full pay, may be granted for this purpose.

Conditions of Service.

Prior to 1908 the salaries paid to classified teachers in charge of schools depended entirely on the classification of their schools, as determined by average attendance. Under the present system arrangements have been made by which the teachers' promotion depends, not only on the progression of their schools, but also on the improvement of their qualifications. To qualify for a higher grade the teachers must pass a series of examinations, but to obtain promotion they must show also the requisite degree of efficiency in practical work.

The salaries paid to High School teachers are as follows:—

Teachers.				Men.		Women.	
Principal—				£	£	£	£
Boys' or Girls' School				400	to 600	300	to 450
Mixed school				350	„ 450	.....
Master and Mistress of Department ...				300	„ 400	200	to 300
Assistant				200	„ 300	180	„ 250
Junior staff				168	to 228	144	„ 180

The deputy headmaster receives from £25 to £40, and the deputy headmistress from £15 to £30, in addition to other salary.

The following statement shows the range of salaries paid to teachers in Primary schools classified according to the average attendance:—

Average Attendance.	Salary of Principal.	Average Attendance.	Salaries.				
			Principal.	Mistress of Department.		First Assistant.	
				Girls'.	Infants'.	Men.	Women.
Under 20	£ 132-174	200-399	£ 306-366	£ 204-216	£ 192-210	£ 198-240	£ ...
20-29	174-204	400-599	390-408	216-252	198-216	198-264	162-168
30-49	216-234	600 and over }	450	252-288	216-252	246-288	180-210
50-199	258-324						

If the average attendance in a boys' department exceeds 500, the principal receives £500, and the first assistant £312; if over 400, the salaries are £475 and £300 respectively; and if the average exceeds 300, the principal teacher receives £465. Similarly, if a girls' department exceeds 400, the mistress receives £312, and the first assistant £222, or £192. Headmasters of practice schools (Primary) receive £475 per annum.

Assistants.—The salaries of ordinary assistants are:—Men, £156 to £228; women, £138-£168; unclassified—men, £110-£156; women, £110-£120; junior assistants under 21 years, men and women, £72. Teachers are eligible for a minimum salary of £132 per annum on attainment of age 21; and extended leave is allowed after twenty years' service.

In addition to these rates, special allowances are made to teachers of Intermediate, High, District and Evening Continuation schools and to teachers of special subjects, such as Science, Manual Training, Cookery, &c. Married teachers in charge of schools are granted residences at an assessed rental, and extra allowances may be granted to teachers stationed in remote localities, where the cost of living is high. Teachers of half-time schools and of house-to-house schools are paid at the same rates as those in public schools of corresponding classification. Subsidised teachers receive £5 per head of average attendance, with a maximum of £50 per annum; in the western districts the subsidy is £6, and the maximum £60 per annum.

Classification and Improvement.

State school teachers are graded and obtain promotion after passing a series of examinations, framed to test their progress in scholastic attainments as well as their skill in imparting knowledge, and consideration is given for meritorious service.

A comparative statement of the teaching staff of the State schools for the years 1910 and 1915 is shown below; those in the Technical Education Branch are not included:—

Teachers.	1910.			1915.		
	Men.	Women.	Total.	Men.	Women.	Total.
Teachers and Assistants—						
First Class	257	71	328	273	99	373
Second Class	713	545	1,258	1,012	708	1,720
Third Class	1,310	698	2,008	1,367	912	2,279
Unclassified	791	1,019	1,810	667	1,306	1,973
Training Students	154	149	303	152	380	532
Pupil Teachers	8	28	36	...	...	...
Cookery Teachers ... ..	...	...	...	...	58	58
Sewing Mistresses... ..	...	109	109	...	109	109
High School Teachers	29	19	48	165	134	299
Subsidised School Teachers	33	324	362	38	510	548
Total	3,300	2,962	6,262	3,674	4,216	7,890

There is a high number unclassified because there are included in this category ex-students of the College whose classification is deferred until they have proved their practical skill during a period of service as assistants; also in 1915, 216 men and 308 women who had completed the short-course of training at Hereford House.

Associations are established in the inspection districts to keep the teachers in touch with modern educational methods. Meetings are held at frequent intervals for the discussion of educational topics; addresses are delivered, and demonstration and practical lessons are given on subjects of professional interest. Circulating libraries have been established by a large number of these associations.

In isolated districts, where the teachers are unable to be present at these meetings, they are allowed to attend for a short period, from time to time, at larger schools, also summer schools and schools of instruction are held regularly.

During 1915, 380 teachers were enrolled as students in the University of Sydney, 256 attending in the evening; 265 were attending the Arts, and 39 the Science Course.

Supervision.

A staff of Inspectors has been organised to exercise supervision over Public Schools; and in 1916 the inspectors for primary and superior schools numbered 39, together with two Inspectors of Secondary Schools, and an Inspector of Evening Continuation Schools. Under the Bursary Endowment Act, inspection is provided for such private secondary schools as apply for registration.

Methods of inspection were radically altered in 1904. Detailed examination of school-pupils was replaced by a more general inspection of the work and management of the school, to enable the Inspector to devote his attention to the improvement of the condition of the school and of the efficiency of the teachers. The Inspector is required to meet the teachers of his district during each year; the meetings being devoted to lectures, essays, and the discussion of educational topics.

Although the whole administration of schools is reserved to the Minister, Public School Boards are appointed to visit schools, to induce parents to send their children regularly, and to carry out other duties either to support

the teachers, or to check misconduct. These Boards are restricted in supervision to the schools in their respective districts, which are defined by proclamation.

During recent years a number of Parents and Citizens' Associations have been formed and their growth testifies to a widespread desire to aid in educational work. These associations have no authority in the internal management of the schools nor in the expenditure of public moneys.

PRIVATE SCHOOLS.

Until the recent reorganisation of the State secondary-school system there were only five Public High Schools with an average quarterly enrolment of less than 900 pupils, so that instruction beyond the primary stage of the Public Superior Schools was supplied to a large extent by private establishments. None of the private schools are subsidised, except the Sydney Grammar School; the majority are conducted under the auspices of the religious denominations, and those of the Roman Catholic denomination show a substantial increase, in contrast to the marked diminution of other private schools.

The fees vary in accordance with the type of school, many of the secondary schools being residential, and in the denominational primary schools the payment of fees is to a large extent voluntary. Scholarships and bursaries have been provided by private subscription for the assistance of deserving students. Hitherto, the Department of Education has exercised no supervision over the private schools except those registered under the Bursary Endowment Act, which are inspected by the Inspector of Secondary Schools, but in order to comply with the compulsory attendance clauses of the Public Instruction (Amendment) Act, 1916, children between the ages of 7 and 14 years must attend schools certified as efficient by the Minister for Public Instruction. Applications for registration of schools may be made to the Minister, and provisional registration granted pending inspection by Government officers. Appeals against the refusal or cancellation of certificates may be made to the Bursary Endowment Board. The Act authorises the inspection of all school premises, and proprietors may be required to bring the hygienic conditions of their schools up to the standard of State schools similarly situated and circumstanced. Teachers and proprietors of certified schools will be required to furnish returns to the Minister.

A comparative statement relating to the private schools is shown below. Sufficient data are not available to permit the classification of these schools according to the standard of instruction supplied:—

Classification.	1905.				1915.			
	Schools.	Teachers.	Enrolment.	Average Attendance.	Schools.	Teachers.	Enrolment.	Average Attendance.
Undenominational ...	421	1,252	11,131	9,158	234	1,020	8,786	7,634
Roman Catholic ...	361	1,835	41,268	32,908	418	2,219	51,369	43,475
Church of England ...	60	295	3,954	3,121	54	339	3,619	3,042
Presbyterian ...	4	44	318	250	4	47	334	310
Methodist ...	2	34	287	261	2	40	386	308
Lutheran ...	1	2	44	41	2	2	60	62
Seventh Day Adventist	3	14	239	222	4	15	309	332
Hebrew... ..	1	6	613	519	...	...	...	...
Total	853	3,482	57,854	46,480	718	3,682	64,863	55,163

Included in the number of teachers as shown in the table are those who visit the schools to give tuition in special subjects only, the figures for 1915 being 2,716 permanently attached to the teaching staffs of the schools and 966 visiting teachers as compared with 2,639 staff teachers and 843 visiting teachers in 1905.

Sydney Grammar School.

The Sydney Grammar School was incorporated by an Act of Parliament in 1854, and opened in 1857; the Act authorised the payment of £20,000 for the erection of school buildings, and an annual endowment of £1,500.

The following is the record for the last five years of the numbers of teachers and students in the Sydney Grammar School, which since its foundation has been conducted exclusively for boys:—

Year.	Teachers.			Students.				
	Holding University Degrees.	Not Holding University Degrees.	Total.	Enrolment.		Attendance.	Age Groups.	
				Total.	Quarterly Average.	Daily Average.	December Enrolment.	
							6 and under 14 years.	Over 14 years.
1911	18	8	26	696	584	553	153	434
1912	17	8	25	665	561	522	143	379
1913	18	8	26	695	606	566	132	463
1914	18	8	26	686	571	537	68	487
1915	18	8	26	638	567	545	93	468

The income of the Sydney Grammar School for the year 1915 amounted to £12,539, including statutory endowment £1,500 and school fees £10,378; the expenditure amounted to £13,384.

TECHNICAL EDUCATION.

The foundation of this branch of educational work was due in great measure to the efforts of a few enthusiasts connected with the Sydney Mechanics' School of Arts; and, in 1873, it was decided to establish a Technical College, affiliated to that institution, with the object of improving the scientific knowledge of Australian artisans. In the year 1878 a sum of £2,000 was granted by Parliament towards the organisation of a Technical College, and the work of the institution was carried on in connection with the School of Arts. In 1883, however, a Board was appointed by the Government to take over the management, and the Technical College became a State institution. In addition to the classes held in the metropolis, lectures were delivered in country towns, and classes were established wherever sufficient support was given.

Towards the end of 1889 the Board was dissolved, and the Technical College placed under the direct control of the Department of Education; technical education is now administered by a superintendent, with financial and general procedure independent of other branches of the State primary and secondary education system.

Accommodation for the classes was provided by the erection of the Technical (Central) College, at Ultimo, which was opened for the reception of students in January, 1892, and has been subjected to extensive additions and alterations.

Eight branch Colleges were established in suburban and country centres and classes were instituted in numerous other places; technical classes at Public schools were also under the direction of the Technical College teachers until 1912, when they were dissociated and manual work became part of the ordinary Public School course.

Although Technical education was steadily extended throughout the State it became evident that the system failed to attain its main objective, viz., the training of competent tradesmen and of persons capable of directing the work of the artisans; this failure was attributed mainly to lack of co-ordination of the work of the College with that of the employers' workshops, and to the want of preparatory knowledge on the part of the students. It was decided therefore to reorganise the Technical system, and, with the co-operation of representative industrial employers and employees, a new scheme was evolved in 1913, and put into operation at the beginning of the following year.

Two main courses of instruction have been established—(a) trades courses, concurrent with the period of apprenticeship; (b) higher courses embracing the technology of the various trades and technical professions. Important features of the new scheme are: (1) that intending students are required to furnish evidence that they possess sufficient preparatory knowledge to take profitable advantage of the training; (2) that no student is admitted to a course unless actually engaged in the specific trade to which the course relates. Special provision is made that journeymen who desire to improve their knowledge may be admitted without preliminary test to any part of the courses relating to their trades.

The Trades courses are divided into two parts, viz., the lower courses, covering a period of three years in the Trades Schools; and the higher, which last for two years, in the Technical Colleges. The day classes in the workshops of the College have been abolished, and students are expected to attend on three evenings per week, to receive instruction in trade mathematics, drawing and trade exercises, which include trade principles and practical work likely to be missed by the apprentice at his daily work.

An Advisory Committee consisting of representatives of both employers and employees has been appointed for each trade or group of trades to give advice and assistance regarding practical courses, equipment and teaching. These committees are specially valuable in giving publicity to the aims of the Technical Department, and thereby stimulating interest in this important branch of education.

The instruction of apprentices in the trades courses is strictly supplemental to their workshop training, and in granting certificates of trade competency, the experience and training of each apprentice in the workshop of his employer is taken into account as well as the results of his studies at the trades schools. By this method the trade certificate awarded on the satisfactory completion of the course is a guarantee of proper training at actual work as well as in the courses of technical instruction.

The higher technical, or diploma courses, were commenced in 1915; the qualifications as to preparatory knowledge and trade occupation are prescribed as in the case of the trades courses, except that the Diploma Course in Science is open to students irrespective of occupation. Holders of trade or high school Leaving Certificates, or of similar Certificates of recognised educational institutions, may be admitted without further examination to the Diploma Courses, which are given only in the Central Technical College in Sydney.

Students who pass successfully through the Diploma Courses in science and engineering may be exempted from attendance during the first year's courses which lead to a degree in science and mechanical engineering at the Sydney University. A comprehensive scheme of scholarships has been established, to encourage students from the primary schools to pass through the study courses of the technical system, and thence to the University.

Instruction is given under the technical education system in Domestic Science (which includes cookery and laundry work), window-dressing, and tailor's cutting; these subjects are not included in the trade or diploma classes.

The following table shows the number of classes and teachers and the enrolments at the Technical College and schools during the last ten years; the figures do not include the technical classes in Public schools:—

Year.	Classes.	Lecturers and Teachers.	Total Enrolments.*	Individual Students.	Average Weekly Attendance.	Fees Received.
1906	482	249	11,339	8,169	7,606	£ 11,007
1907	565	273	13,533	10,106	8,616	13,046
1908	667	280	16,075	12,451	9,506	14,176
1909	736	292	18,206	12,434	10,924	15,475
1910	777	334	19,695	12,712	12,172	15,873
1911	816	343	22,021	14,147	14,560	16,395
1912	732	340	26,469	14,805	17,204	15,846
1913	582	286	16,218	11,620	12,214	13,760
1914	513	289	13,687	9,052	11,523	10,779
1915	519	293	13,000	7,219	9,257	9,830

* Includes students who have joined more than one class.

The immediate effect of the reorganisation of the Technical system was to reduce the enrolments, a number of classes with no direct bearing upon any trade being discontinued; the entrance tests and the regulations as to occupation also caused a reduction in the number of students. The enlistment of students for military service has affected the attendance since the outbreak of the war.

The enrolment of students in the various departments during the last three years is shown below:—

Departments.	1913.	1914.	1915.
Agriculture	122	130	97
Architecture	2,329	1,897	1,668
Biology	218	130	124
Chemistry and Metallurgy ...	648	539	454
Domestic Science... ..	882	603	619
Electrical Engineering	884	753	789
Geology	584	584	417
Mathematics	854	1,094	1,518
Mechanical Engineering ...	2,217	2,051	1,998
Printing	202	222	223
Sanitation	1,389	918	862
Sheep and Wool	330	295	322
Women's Handicrafts	2,709	2,292	2,148
Art	1,759	1,271	1,099
Commercial	711	577	503
Other (separate classes) ...	380	331	204
Total	16,218	13,687	13,000

The teaching staff in connection with technical education consists of lecturers in charge of departments and resident masters in charge of branch schools, together with assistant teachers. The following statement shows the classification of teachers in the Technical Education branch in the last seven years :—

Year.	Lecturers in charge.		Resident Masters.	Salaried Teachers.		Salaried Assistants.		Teachers (Paid by fees.)		Total.	
	Men.	Women.		Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.
1909	11	...	8	126	32	36	3	31	45	212	80
1910	11	...	7	139	31	55	4	31	56	243	91
1911	11	...	8	151	33	54	9	28	49	252	91
1912	11	...	8	149	29	60	13	20	50	248	92
1913	10	...	7	133	14	53	8	18	43	221	65
1914	10	...	6	141	11	69	8	16	28	242	47
1915	9	1	5	147	8	76	7	19	26	256	42

KINDERGARTEN.

Kindergarten methods have been adopted as far as practicable in the Infant Schools under the Department of Education, and in various parts of Sydney and suburbs Kindergarten classes are conducted for the purpose of bringing young children under refining influences. During the year 1915 classes were in operation in 88 Public Schools; 15 were separate Infant Schools, and the remainder were Primary Schools with Kindergarten departments attached; the number of pupils enrolled for Kindergarten instruction was 4,511, the average attendance being 3,333.

These classes were conducted under Froebelian methods until 1912, when the Montessori system also was introduced. Shortly after the publication of the Montessori methods a series of experiments was commenced at the Kindergarten Practising School at Blackfriars, Sydney, and so great was the success that it was decided to send the mistress of this school to Rome to study the system at first hand. On her return the mistress, who is also the lecturer in Kindergarten at the Teachers' College, reported that the methods were satisfactory, not only as an aid to Kindergarten teaching, but also in the training of much older children; so that Montessori teaching materials have since been introduced, with very satisfactory results, into many of the Infant Schools. The underlying principle of the system is individual liberty, and its main benefits are independent work, more rapid progress, and a pleasure in work for both teacher and children.

Park Kindergartens.

A scheme for the establishment of Park Kindergartens or Playgrounds for children under school age in recreation areas controlled by Municipal Councils was initiated in November, 1913, when the first was opened in the Victoria Park, Sydney, under the City Council; an area of 2 acres was fenced off and a shelter shed erected; swings and appliances were provided for the amusement of children, under the supervision of a trained Kindergarten teacher appointed by the Department of Education. The scheme is being extended throughout the metropolitan area.

Private Kindergarten Schools.

Free Kindergarten schools are conducted by the Kindergarten Union of New South Wales, which is assisted by a grant from the Government, amounting in 1914-15 to £1,150. In 1915 there were 8 Free Kindergarten

schools with 41 teachers; the number of scholars on the roll during the December quarter was 479, of whom 467 were under 6 years of age, and 12 between 6 and 14 years. The average daily attendance was 356, and the gross enrolment for the year, 738.

At some of the ordinary private schools there are departments for Kindergarten work.

In connection with Kindergarten teaching a private institution provides training in Froebelian methods, and the Free Kindergartens provide observation and practice schools.

COMMERCIAL EDUCATION.

Preparatory education for commercial life has been provided in the State primary schools, where the course of instruction, especially in the Commercial Continuation Schools, includes elementary training in many commercial subjects; economics and business principles and practice are included in the curriculum of the High Schools. Many private schools and colleges also afford facilities for commercial training, both by day and evening classes.

A complete return of the number of pupils taught in these special subjects is not available, but statistics of the State Commercial Continuation Schools have been supplied on a previous page, and the following statement shows particulars of Business and Shorthand Schools under private management, in which many persons who have passed the school age receive instruction. Book-keeping, business methods, shorthand, and typewriting are the main subjects taught:—

Year.	Schools.	Teachers.		Enrolment.			Average Attendance.			Total Fees Received.
		M.	F.	M.	F.	Total.	M.	F.	Total.	
1907	17	73		1,776	1,185	2,961	1,137	699	1,836	£ 11,447
1908	19	96		2,430	2,237	4,667	1,301	1,281	2,582	16,509
1909	18	99		2,177	2,558	4,735	1,069	1,230	2,299	16,293
1910	18	65	36	2,492	2,638	5,130	1,316	1,184	2,500	17,159
1911	19	66	36	3,336	4,223	7,559	1,490	1,741	3,231	19,436
1912	18	59	44	3,280	5,231	8,511	1,321	2,134	3,455	22,743
1913	17	72	35	2,112	4,526	6,638	1,105	2,096	3,201	25,104
1914	18	58	40	2,511	4,068	6,579	1,152	1,423	2,575	25,389
1915	18	50	35	2,931	6,062	8,993	918	1,322	2,240	22,337

In addition to the above, there are many students to whom instruction is being imparted by means of correspondence.

Evening classes are conducted by various institutions, such as the Young Men's Christian Association, and the Railway Institute.

At the latter institution, lectures of a technical and scientific character are arranged, in addition to the regular class work, in subjects ranging from ordinary English and commercial subjects to engine-driving, electrical physics, safe railway working, goods and coaching accounts, &c. The institute has succeeded also in accumulating a choice collection of New South Wales timbers.

Advanced preparation for commercial life has been provided in the University evening lectures for the diploma in Economics and Commerce. This section of the University teaching was promoted originally by the Sydney Chamber of Commerce in the form of brief lecture courses available to the general public, and in examinations conducted for senior and junior commercial certificates issued by that body. The diploma course

was converted in 1913 into a full degree course; separate Chairs for applied chemistry and for economics have been provided, and it is hoped that means will be provided for practical research work which will be of great benefit to Australian industries.

DOMESTIC TRAINING.

In the reorganisation of Superior Public Schools provision has been made for the establishment of Domestic Superior Public Schools for girls. The syllabus came into operation at the beginning of 1913, and the course includes household accounts, cookery, laundry work, dressmaking, millinery, garden, art of home decoration, music, and social exercises, morals and civics, physical training, as well as a course in English, designed to encourage a taste for wholesome reading.

Three hours per week are devoted to cooking and laundry, the course being practical and diversified. Personal hygiene, nursing of sick, and care of infants receive considerable attention.

Botany and gardening are taught, and while the course is designed primarily to train girls to manage a home, provision is also made for a training in commercial horticulture, and an alternative course of business lessons in the second year is intended to fit girls to take up work in the commercial houses in the city.

During 1915 fifty-eight schools for practical cookery were in operation, the enrolment being 3,522; in addition, demonstrations in cooking were given to 5,509 pupils of fifth-classes. The Technical College provides more advanced courses.

AGRICULTURAL AND RURAL TRAINING.

Education in subjects pertaining to rural industries is commenced in the primary schools with the teaching of the elementary principles of agriculture, both practical and theoretical. School gardens and experiment plots are adjuncts to many State schools, and grants are made of farm, vegetable, and flower seeds.

In 1905 an Instructor of School Agriculture was appointed, to direct the work of the teachers in the primary schools; his duties are to visit schools in the interests of school agriculture, and to supply the teachers with information required to direct the work of the pupils.

Rural camp schools have been held periodically, with the object of familiarising city lads with the important rural industries of the State, and of fostering an inclination for rural pursuits. Metropolitan school-boys were accommodated for a short period, while they visited dairies, farms, &c., under suitable guidance, and were instructed by direct illustration. The operations of the rural camp school have been suspended on account of the war.

A special Agricultural High School is established at Hurlstone. The grounds, covering 26 acres, are used for teaching practical operations and for experimental work in the growth of crops, action of fertilisers, &c. The course at this school extends over two years, and covers a general English education in addition to science with laboratory practice, and agriculture with field work. During 1915 there were 109 students on the roll, of whom forty were in residence, and at the end of 1915 there were three bursars and fifteen scholarship holders in residence. For resident students the fee is £6 6s. per quarter; for day students no fees are charged.

The training at Hurlstone Agricultural High School forms a preparatory course to the more advanced work at Hawkesbury Agricultural College.

At the Central Technical College at Ultimo, a diploma course covering two years is available for evening students.

Supplementing the training given to pupils under the Department of Education, a graduated scheme of agricultural instruction is organised in connection with the development of rural industries, by the Department of Agriculture of New South Wales. This scheme provides for Apprentice Schools for lads between the ages of 16 and 20 years who intend to become agricultural workers; one-year practical courses are provided at a charge of £5 per half-year. These schools are conducted in connection with Experiment and Demonstration Farms at Cowra (mixed farming), Glen Innes (mixed), Dural (orchard), Grafton and Wollongbar (dairying).

Experiment Farm Schools, which provide a preparatory course for older lads to enable them to work their own farms, are established in connection with the Experiment Farms at Wagga, Bathurst, and Yanco.

During recent years lads have been received for short courses of agricultural training at the Agricultural Training Farm at Pitt Town. From 1910 the establishment, converted into the Government Agricultural Training Farm, was devoted primarily to the training of lads, particularly in connection with the Dreadnought Funds, publicly subscribed, of which the Government has undertaken the administration. At 30th June, 1916, four lads were in residence; as the majority of trainees were youths from Great Britain, the continuance of the war caused a considerable decline in the number of these students, and it has been decided to devote the farm to the training of women. The first women students were admitted in July, 1916, training and maintenance being provided free for a period of twelve months.

Instruction in general farm work is given at the Farm Schools at Gosford and Mittagong, conducted by the State Children's Relief Department. Details will be shown in a later chapter.

Hawkesbury Agricultural College provides higher agricultural education. The farm covers 3,430 acres, and the average number of students in attendance during the year 1915, was 170. The Diploma course at the College covers three years' work, but certificates may be obtained for shorter courses. Students holding the Diploma of the College may be permitted to complete the course for the degree of Bachelor of Science in Agriculture at the University in three years instead of four. Under the direction of the College, Dairy Science Schools have been held in various centres for the benefit of factory managers and assistants.

The following statement shows the attendance during the last five years at the agricultural training establishments:—

Establishment.	1911.	1912.	1913.	1914.	1915.
Hawkesbury Agricultural College ...	217	201	203	185	170
Experiment Farm Schools—					
Wagga	77	75	79	63	51
Bathurst	49	51	51	31	38
Yanco	20	13	18	14	11
Farm Apprentice Schools—					
Wollongbar	11	2	6	41	8
Cowra	19	20	29	46	27
Glen Innes... ..	...	12	33	33	18
Grafton ... ..	...	14	21	29	15
Dural Demonstration Orchard ...	5	3	3	13	6
Hurlstone Agricultural High School ...	56	61	67	99	109
Government Agricultural Training Farm...	177	399	366	254	58
Total	631	861	876	813	511

The final stages of agricultural education and training in this State are reached at the University, where, in the beginning of 1910, a department of Agriculture was instituted as a branch of the Faculty of Science. A four-years' course leads to the degree of Bachelor of Agricultural Science; and, in providing a higher training ground for teachers and experts, completes the whole system of preparation for rural industries. The Experiment Farms of the State are available for the practical and experimental work in connection with the degree course.

In addition to the educational work undertaken, either under the State system of education, or in the development of rural industries, agricultural interests are developed by means of such institutions as the Agricultural Bureau, agricultural societies, &c., in regard to which particulars are given in the part of this volume relating to "Agriculture."

During each year various short courses of study and practice in matters pertaining to rural industries are held. In 1916 a Winter School for farmers at the Hawkesbury Agricultural College was attended by 103 students, and a Summer School in apiculture was attended by 20.

Schools at various centres for Cream Graders and Testers in 1916 were attended by 79 students.

PHYSICAL AND MILITARY TRAINING.

In accordance with the provisions of the Defence Acts the military training of cadets is conducted by the school teachers. Prior to the inauguration of the Commonwealth universal training system in 1911, cadet corps had been organised in connection with a large number of State schools, and in the larger private institutions.

At the close of 1910 there were in the State schools 7,000 cadets in Metropolitan and Country Corps, in addition to senior companies at the Sydney Boys' High School, Fort-street Model School, Hurlstone Agricultural High School, and Cleveland-street School. The ranges in use numbered 239, including 75 miniature rifle ranges.

On 1st July, 1911, the State organisation of cadets was superseded by that of the Commonwealth, the first half of the year having been devoted to the preparation of candidates for posts as non-commissioned officers in the forces.

To complete their year's training, junior cadets prior to 1912 served for 120 hours, in periods of 2½ hours per week for 44 weeks; the Defence Act of 1912 reduced the yearly service to 90 hours. Elementary marching drill occupies one half-hour per week, and the optional subjects include miniature rifle shooting, swimming, running exercises, and first aid.

During the twelve months ended 30th June, 1915, 22,114 Junior Cadets were trained at 1,163 schools, and 19,387 were passed as efficient.

Senior cadets (14-18 years) attend weekly drills after school hours; and 6 half-day musketry parades per annum are required, in addition to 4 whole day parades, and 6 half-day parades on public holidays or Saturdays. Senior cadets having the option of choosing whether they will drill with the school unit or with the area unit, may be enrolled in the school corps. Particulars concerning the system of universal military and naval training are given in the chapter dealing with "Defence."

To secure the efficiency of the teaching staff for the universal training of cadets, schools of instruction for teachers are arranged; the course includes physical training, drill, shooting, swimming, first aid, &c. In order that the scheme of physical training may be extended to school girls the Defence Department arranges also special courses of instruction for women teachers. Nineteen schools of instruction were held in 1915, and were attended by 531 teachers. For women teachers a school was held during the Christmas vacation 1914-15; 55 women attended.

Games and Sports.

Organised games and sports are encouraged in the schools, and wherever facilities exist, swimming is included in the ordinary curriculum. In the State schools, one afternoon per week in the season may be devoted to the art of swimming, and instruction in life-saving is given.

Public School Athletic Associations in Sydney and in the country districts organise school displays, and competitions in games.

SCHOOL SAVINGS BANKS.

A system of school savings banks in connection with the public schools of the State was initiated in the year 1887, and by this means £525,455 have been received in deposits, and £120,236 transferred to the Government Savings Bank as Children's Individual Accounts. The object of these banks is to inculcate principles of thrift during the impressionable ages.

In 1915 these banks numbered 744; the estimated number of depositors was 63,000. The deposits amounted to £27,204, and withdrawals, £28,990; £5,691, representing individual sums of £1 and upwards, were transferred to the Government Savings Bank, leaving £11,177, as credit balances in the school banks.

DELINQUENT, DEFECTIVE AND DEPENDENT CHILDREN.

Special provision has been made for delinquent, defective and dependent children in several reformatories and industrial schools maintained by the State and in private charitable institutions.

The State Institutions are the Girls' Industrial School and Training Home at Parramatta and the Gosford Farm Home for Boys, and the Cottage Homes established by the State Children's Relief Board; particulars regarding their operations will be shown in a later chapter of this Year Book.

Education of deaf and dumb and blind children is undertaken at a school in connection with the Institution for the Deaf and Dumb and the Blind. This institution receives periodical grants from the Government, and the school fees are remitted in cases where the parents are unable to pay. In 1915, the sum of £6,514 was received from legacies and subscriptions, and the total income of the institution was £11,454. The expenditure for the year was £7,603, including £6,986 for maintenance, salaries and wages, and £231 for buildings and repairs. The number of teachers employed was 19, of whom 9 were men. The gross enrolment during the year was 84 boys and 62 girls; the average daily attendance was 131. The December enrolment was 134, and of these, 70 were under and 64 were over 14 years of age.

Ragged Schools have been conducted since 1860 in Sydney, to provide education and attention for neglected children, meals and clothing being supplied when necessary. The operations of these schools have decreased in recent years, with the enactment of free education in State schools. During 1915, 5 schools were open, 6 women were employed as teachers, and 265 individual scholars were enrolled, with an average daily attendance of 125. There were 174 children on the roll during the December quarter, 50 were under 6 years, 121 from 6 to 14 years, and 3 were over 14 years.

At charitable institutions in 1915 there were 14 schools with 57 teachers and a gross enrolment of 1,234. In December quarter the enrolment of 1,010 consisted of 79 under 6 years of age, 741 between 6 and 14 years, and 190 over 14. These were denominational institutions conducted by the Roman Catholic Church and the Church of England.

MEDICAL INSPECTION OF CHILDREN.

In 1907, arrangements were made for the medical inspection of children in the State schools in the populous centres of Sydney and Newcastle; in 1911 it was extended to the South Coast district and to a number of inland towns,

During 1913 the medical inspection was reorganised to include the pupils of all Public Schools throughout the State, and the majority of those attending the private schools; and arrangements were made to examine each child every three years, thus ensuring two medical examinations during school-life. To provide for the treatment of defective children in sparsely populated areas a travelling school hospital and a travelling ophthalmic clinic were established during 1914; in the following year a travelling dental clinic was organised, also one in Sydney. Arrangements are being made for a considerable extension of the work of the medical branch, with the object of increasing the facilities for treatment of defects. Details regarding the medical inspection of school children and the school clinics will be given in a later chapter of the Year Book.

The work of the medical officers of the Department of Education includes the investigation of epidemics of infectious diseases affecting school children; the inspection of school buildings; systematic courses of lectures at the Teachers' College; lectures to senior girls in all metropolitan schools on the care of babies, personal cleanliness, home hygiene, sick nursing, &c.; lectures to parents; examination of candidates for admission to the Teaching Service; first treatment of ophthalmia in the back-country schools; the following up of untreated cases by visits of school nurses to parents in order to secure the medical treatment of children.

A series of lectures given by a member of the School Medical Staff to the women students at the Teachers' College forms part of the Infant Teachers' course of instruction, the students being trained to observe children and to diagnose simple ailments.

UNIVERSITY EXAMINATIONS.

Since 1867 the University has conducted annual Public Examinations, Junior and Senior, open to candidates from any school, on payment of a fee, and these examinations have ranked as tests of the soundness of instruction imparted in the public and private schools of the State.

The Senate has decided to abolish the Examinations, as they have been superseded by those conducted by the Department of Education as described below. The last Senior Examination was held in 1915, and the last Junior in 1916.

The number of candidates and the passes at these examinations are shown for quinquennial periods as under:—

Period.	Senior.			Junior.		
	Candidates.	Passes.		Candidates.	Passes.	
		Total.	Per cent. of Candidates.		Total.	Per cent. of Candidates.
1867-1870	35	30	85.7	69	53	76.8
1871-1875	294	174	59.2	951	544	57.2
1876-1880	316	237	75.0	1,737	1,046	60.2
1881-1885	311	238	76.5	2,471	1,589	64.3
1886-1890	617	471	76.3	4,756	3,152	66.3
1891-1895	771	586	76.0	8,603	5,250	61.0
1896-1900	602	496	82.4	6,102	3,915	64.2
1901-1905	674	568	84.3	5,811	3,944	67.5
1906-1910	867	719	82.9	6,403	4,560	71.2
1911	168	131	77.9	1,227	944	76.9
1912	210	167	79.5	1,178	886	75.2
1913	171	131	76.6	867	632	72.9
1914	136	91	66.9	464	332	71.6
1915	145	115	79.3	413	259	62.7
1916	*	*	*	253	131	51.8

* No examination held.

The following table shows the distribution of successful candidates in recent years :—

Year.	Senior Passes.			Junior Passes.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
1906	92	34	126	582	263	845
1907	104	45	149	531	273	804
1908	101	50	151	582	332	914
1909	90	55	145	604	311	915
1910	114	34	148	721	361	1,082
1911	100	31	131	645	299	944
1912	114	53	167	615	271	886
1913	95	36	131	418	214	632
1914	58	33	91	195	137	332
1915	70	45	115	138	121	259
1916	*	*	*	69	62	131

* No examination held.

Education Department's Certificate Examinations.

Prior to 1911 students from public schools, superior and high, were successful competitors at public examinations conducted by the University. Since the introduction of a co-ordinated system of secondary education, designed to furnish adequate preparation for various types of vocation, and to institute State bursaries, the necessity for competing at such examinations has vanished with the acceptance, by the University, of the certificates of the Department of Education, as indicating the attainment of satisfactory standards of education.

The regulations provide for three certificates to mark definite stages in the progress of school pupils, the examinations being open to students of State and private schools. The Qualifying Certificate indicates that the holder has completed the primary course, and is fitted to enter upon a secondary course; this standard is a condition precedent to admission to higher schools. The Intermediate Certificate marks the completion of the higher primary stage constituting the first two years of the secondary course. The Leaving Certificate is obtainable on graduation from the full four years' course of the High Schools, and is accepted as indicative of adequate preparation for the University, if it shows a pass in matriculation subjects.

The first examination for the Qualifying Certificate was held in December 1911, at 600 centres in New South Wales. The following are particulars regarding the examinations held during the year 1911 to 1915, the candidates being pupils of Public and Private Primary Schools :—

Year.	Candidates.	Passes.	Scholarships awarded.		Bursaries awarded.	
			Boys.	Girls.	Boys.	Girls.
1911	10,708	7,692	297	240	186	116
1912	14,978	8,464	330	184	198	102
1913	15,348	7,934	418	213	218	85
1914	16,684	11,137	1,255	745	195	106
1915	17,480	11,761	5	...	291	129

In allotment of the certificates on this examination, which also determines the allocation of Scholarships to Secondary Schools, the teachers' reports and the record of school attendance are taken into account. The granting of

Scholarships at State Schools was discontinued in 1915, arrangements having been made for supplying text-books free of charge to all pupils; 5 Scholarships tenable at the Sydney Grammar School were awarded during the year.

The Examining Board in connection with the Intermediate and Leaving Certificates consists of the Director of Education, the Chief Inspector, the Principal of the Teachers' College, the Inspector of Secondary Schools, and four delegates appointed by the University.

The results of the Intermediate Certificate Examinations are shown below. The low percentage of passes in 1912 is due to the fact that in the initial year the full course had not been covered before the examination. In 1915, of 2,435 candidates, 66 per cent. were successful:—

Year.	Candidates.	Passes.	Scholarships awarded.		Bursaries awarded.	
			Boys.	Girls.	Boys.	Girls.
1912	1,571	645	43	2	56	62
1913	1,573	912	19	5	63	181
1914	2,334	1,563	3	...	74	210
1915	2,435	1,604	13	4	*	*

* No Bursaries were awarded.

The first Leaving Certificate Examination was held in November, 1913, and of 156 candidates, 123, or 71 per cent., were successful. In 1915 the percentage of passes was 78:—

Year.	Candidates.	Passes.	Scholarships awarded.	University bursaries awarded.	
			Boys.	Boys.	Girls.
1913	156	123	...	20	4
1914	337	280	...	20	9
1915	572	447	14	23	7

On the results of this examination, the University bursaries, and the exhibitions instituted under the University Amendment Act are awarded, also scholarships for the Diploma Courses at the Technical College.

The Intermediate and Leaving Certificate Examinations have been adopted as standards for the admission of persons to the public services of the State.

The first examination for Superior Public School Certificates was held in December, 1914; 566 candidates who had completed the two years' course sat for examination, and 469 passed; in 1915 the candidates numbered 668 and the passes 435.

Evening Continuation School Certificates.

Certificates of proficiency are awarded to pupils of Evening Continuation Schools whose attendance and work have been satisfactory throughout the course. In 1915 there were 354 candidates at the examination for certificates, and 206 passed; in the previous year 182 passed out of 291 candidates.

TECHNICAL EDUCATION EXAMINATIONS.

The following are particulars of examinations conducted in the Technical Branch during the last five years :—

Particulars.	1911.	1912.	1913.	1914.	1915.
Number examined	5,581	5,714	4,811	3,684	4,334
Number of passes	4,708	4,728	3,577	3,095	3,558
Percentage of passes	84·3	82·7	74·3	84·0	82·1
Number obtaining honours ...	670	593	502	466	675

STATE SCHOLARSHIPS AND BURSARIES.

It has been the policy of the State to assist promising students, especially to the High Schools and to the University, by means of scholarships and bursaries.

High School scholarships, awarded to pupils under 14 years of age, upon the result of the Qualifying Certificate Examinations, are tenable for a period of four years; and entitle the holders to free education with a grant of text-books and other school material to the value of £1 10s. per annum; under specified conditions an allowance in aid of maintenance or travelling may be granted.

As stated above the granting of these scholarships tenable at State Schools was discontinued in 1915, when arrangements were made for the free supply of school material.

Three scholarships are awarded annually to students of the Agricultural High School, entitling the holders to free education for two years at the Hawkesbury Agricultural College, with monetary allowance and text-books. The holders commence on the second years' course at the College.

Probationary students who intend to become teachers may gain two-year scholarships at District Schools. Text-books are supplied and an allowance is granted during the second year.

Scholarships, admitting to courses of technical instruction, are provided to assist students to pass from the Day and Evening Junior Technical Schools to the Trades and Science Schools, from Lower to Higher Trades Courses, and from Trades to Diploma Courses. Students holding Leaving Certificates may obtain entrance by Scholarship to the Diploma Courses; and those who have gained the Intermediate Certificate at the Technical High School may obtain scholarships enabling them to enter the Higher Trades Courses. These technical scholarships carry a grant of text-books and appliances and exemption from fees, and holders must be engaged in the trade or profession for which the course has been established.

Students who pass through the Diploma Course with distinction are enabled to continue their education at the University by means of scholarships valued at £100 per annum. Two scholarships each will be granted in the Departments of Science, Engineering, and in Architecture at a later stage.

The following scholarships were awarded in 1915 :—

Scholarships.	Tenable at	Period.	Number awarded, 1915.		
			Boys.	Girls.	Total.
Secondary School	Sydney Grammar School..	4	5	...	5
Probationary Student	High or District Schools..	2	42	36	78
Junior Technical and Domestic Science.	Trades Schools	3	21	33	54
Higher Trade Courses... ..	Technical College... ..	2	8	4	12
Diploma Courses	do. ... ..	...	14	...	14
Hawkesbury Agricultural ...	Hawkesbury Agricultural College.	2	5	...	5

In addition to the foregoing the Falkiner Scholarship, established by private benefaction, is open for competition at the Leaving Certificate examination to boys attending the Hay District School; it entitles the holder to free University education and text books for four years, and to a grant for maintenance. As the Falkiner Scholarship is available only once in every four years the Department of Education has supplemented the award by a scholarship similar in value, to be known as the Riverina Scholarship, which will be open for competition in alternate years; it was first awarded as from the beginning of 1914.

Scholarships tenable at the Teachers' College, consisting of a money allowance, text-books, and exemption from college tuition fees, are awarded annually. For first and second year students the allowance is £30 per annum, with an additional grant of £20 to holders who have to board away from home; third and fourth year students receive £50 per annum; and for the short course the allowance is £25. Three scholarships are awarded annually in the longer course at the College, for competition amongst those who have completed the short course at Hereford House. Scholarships are awarded also in the training course for cookery. Travelling scholarships have been instituted in connection with the Teachers' College; former students of two or more years' standing are eligible for these scholarships, which are of the annual value of £200, and are tenable, at the discretion of the Director of Education, for one or two years. Holders of Travelling Scholarships are required to pursue a definite line of study or research into some branch of the theory, practice, or administration of education. The Women's College of the Sydney University awards three scholarships annually to women students of the Teachers' College who are matriculated students of the University.

In connection with the wheat industry, the Government Farrer Scholarship and the Farrer Research Scholarship are tenable at the Hawkesbury Agricultural College, and the Daily Telegraph Farrer Scholarship is awarded to the best wheat student at the Bathurst or Wagga Experiment Farm School; details of these scholarships are given in the chapter relating to Agriculture.

Bursary Endowment.

In 1912 the Bursary Endowment Act was passed by Parliament providing public moneys for bursaries, tenable in public or private secondary schools and in the University of Sydney. This fund is administered by a specially constituted board, consisting of two representatives each of the University of Sydney, of the Department of Education and of the Secondary schools registered under the Act. A representative of the Department of Education is chairman.

Schools desiring to benefit under the Act must register; and such registration, which is effective for two years, is conditional upon the suitability of school premises, the organisation and equipment of the school, the method and range of instruction, efficiency of the teaching staff, and the general conduct of the school. The inspection is conducted by the Inspector of Secondary schools under the Department of Education.

Under the general conditions attached to registration a school must be capable of providing a four-year course of instruction beyond the primary stage, to a standard not lower than that of the Leaving Certificate. As at 30th June, 1916, sixty-two schools were registered under the Bursary Endowment Act.

Bursaries admitting to a course of secondary instruction are awarded to pupils between the ages of 12 and 14 years, whose parents' income is less than £200 per annum, or not more than a quota of £50 per annum for each member of the family, exclusive of children earning 10s. or more weekly. One-third of the bursaries are available for pupils of metropolitan and suburban schools. Their award is determined upon the results of the Qualifying Certificate examination; the candidates are classified in two groups, viz., those from schools with less, or with more than 100 pupils in enrolment. Competition is restricted within the groups, and the bursaries are divided in approximate ratio to the number of candidates from the two groups of schools who pass the Qualifying Certificate examination. Each bursary comprises a grant of text-books not exceeding £1 10s. per annum, and a monetary allowance of £30 for the first and second years, and £40 for the third and fourth years, to holders who live away from home in order to attend school, the allowance being reduced in the case of those who reside at home. The number of bursaries is determined by the Board in accordance with the amount available in the current account of the Endowment Fund.

Bursaries tenable at the University of Sydney may be awarded to candidates at the Leaving Certificate examination who are under 19 years of age and whose parents' means are unequal to the expense of the University education. A full Bursary entitles the holder to a grant for text-books not exceeding £5 per annum, and to free education. An allowance not exceeding £20 per annum is given to those who need not board away from home, in order to attend the University, and not exceeding £50 per annum to those who must do so. A Bursar who wins and elects to hold a Scholarship or Exhibition offered by the Senate of the University is entitled to receive from the two sources conjointly an allowance not exceeding £100 per annum.

The bursaries made available by the Bursary Endowment Board during 1915 were as follows:—

Classification.	Tenable at—	Period.	Number awarded, 1915.		
			Boys.	Girls.	Total.
Bursaries	High Schools	yrs. 4	183	84	267
	District Schools	4	56	16	72
	Registered Secondary Schools ..	4	52	29	81
			291	129	420
University Bursaries ...	Sydney University ... ..	...	23	7	30

War Bursaries are provided by the Bursary Endowment Board for children of incapacitated and fallen soldiers; and may be awarded to assist holders during primary, secondary or University courses, or in technical trade or agricultural instruction; they may be applied also to augment the wages of apprentices. Up to 30th June, 1916, war bursaries had been awarded in 11 cases.

In addition to the bursaries made available by the Bursary Endowment Board, three bursaries, tenable for three years, may be awarded at the Hawkesbury Agricultural College; three, tenable for two years, at each of the Farm Schools at Bathurst and Wagga Experiment Farms; and one, tenable for one year, at the Apprentice School at Wollongbar Experiment Farm.

University Exhibitions.

The University Amendment Act, 1912, provides for the allotment of Exhibitions by the Senate to students desirous of entering the University. The Exhibitions are awarded on the results of the Leaving Certificate Examinations, and exempt the holders from payment of matriculation, tuition, and degree fees; they are tenable in all faculties and departments. The number awarded yearly is at the rate of one for every 500 persons in the State between the ages of 17 and 20 years, as shown by the latest census records. The exhibitions are open for competition to students of State High Schools and registered schools who have completed the four-year secondary course. A small number of exhibitions, not exceeding 5 per cent. of the total number awarded, are open to competitors other than school students, provided they have been residents of New South Wales for three years.

In 1915 the Senate allotted 199 exhibitions in the following faculties:—Arts, 44; Medicine, 75; Science, 22; Engineering, 25; Law, 8; Dentistry, Economics, and Agriculture, 5 each. One hundred and forty-two were allotted to the State schools, and fifty-seven to the registered secondary schools.

THE UNIVERSITY OF SYDNEY.

An Act to incorporate and endow the University of Sydney was passed by the Parliament of New South Wales on 1st October, 1850.

The government of the University was vested in a Senate of sixteen elective fellows (at least twelve laymen) with a maximum of six *ex officio* members, professors of the University. Vacancies were filled by election at a convocation of persons entitled to vote, to be held within sixty days of the first meeting of the Senate after the occurrence of the vacancy. The Chancellor and Vice-Chancellor were elected by the Senate from their own body—the Chancellor triennially under the by-laws, the Vice-Chancellor annually by statute. The Senate was empowered to make by-laws and regulations relating to the government of the University, examinations, conferring of degrees, &c., such by-laws, &c., being subject to approval of the Governor of the State.

By the Act of foundation, the University is required to be undenominational, religious tests for admission to any privilege being prohibited expressly; degrees in Theology or Divinity are not conferable. Authority was given to examine, and to grant degrees in Law and Medicine as well as in Arts.

The first Senate was appointed on 24th December, 1850, and established immediately three Chairs—in Classics, Mathematics, and Chemistry and Experimental Physics. On the 11th October, 1852, the University was opened, and twenty-four matriculated students were admitted to membership.

In 1858 a Royal Charter was granted, declaring that “the degrees of this University in arts, law, and medicine shall be recognised as academical distinctions of merit, and be entitled to rank, precedence, and consideration in the United Kingdom as fully as if the said degrees had been granted in any university of the United Kingdom.”

Since the passing of the original Act various amendments have been made. In 1884 the Senate's powers as regards teaching and degrees were extended to provide instruction and to grant degrees or certificates in all branches of knowledge, other than Theology or Divinity, subject to a proviso that no student should be compelled to attend lectures or to pass examinations in Ethics, Metaphysics, or Modern History; and the benefits and advantages of the University in all respects were extended to women equally with men. In 1900 the various enactments were consolidated by means of the University and University Colleges Act, and amending Acts were passed in 1902 and 1912.

The University Amendment Act, 1912, made radical alterations in the Constitution of the Senate, which now consists of 24 members, viz. :—

- 4 Fellows appointed by the Governor.
- 1 Fellow elected by the Legislative Council.
- 1 ” ” ” Assembly.
- 5 Fellows representing the Teaching Staff of the University, *i.e.*, one elected by the Professorial Board, and one each by the four Faculties.
- 10 ” elected by Graduates.
- 3 ” ” the aforesaid Fellows.

Special provision was made in the Act for the retention of the members who were then Chancellor and Vice-Chancellor as additional Fellows for their lifetime; otherwise the maximum term of office is five years. Authority was given for the establishment and maintenance of evening tutorial classes; the State endowment was increased to £20,000 per annum, with the proviso that when any census is taken it will be further increased at the rate of £1 for each 15 persons between ages 17–20, added to the population of the State. Public exhibitions covering cost of matriculation, tuition, and degree fees were authorised in the proportion of one for every 500 persons between ages 17–20 in the population of the State as shown by Census records.

The establishment of colleges of residence in connection with religious denominations for the association of students in the cultivation of secular knowledge was authorised by an Act passed in 1854. Under this provision three colleges have been established adjacent to the University, namely, St. Paul's (Church of England), St. John's (Roman Catholic), and St. Andrew's (Presbyterian), and a Methodist College is being erected. A college of residence for women was established in 1892, on a strictly undenominational basis. The colleges provide tutorial assistance to students in preparing for the University lectures and examinations.

Endowment.

The University receives a statutory endowment of £20,000 per annum, from the Government of New South Wales, and for the year 1915-16 Parliament voted the following sums for the services mentioned:—

£		£	
Scientific apparatus	2,500	Science Research Scholarships ...	500
Evening Lectures	2,000	Astronomy	200
Loss by reduction of Lecture Fees	2,500	Retiring allowances	800
Extensions of existing departments	1,500	Organic and Applied Chemistry ...	2,500
Chair of Agriculture	2,500	Chair of Mechanical Engineering ...	500
Veterinary Science	3,500	Tutorial Classes and University	
Chair of Botany	2,000	Extension	3,000
„ Economics and Commerce	2,000		

Including the vote for additions, repairs, and furniture, £2,000, the total endowment from the State for 1915-16 was £48,000.

Private Benefactions.

Many benefactions have been bestowed on the University by private persons. Among the first were gifts of £1,000 each from Mr. Thomas Barker, Sir Daniel Cooper, and Sir Edward Deas-Thomson, represented by lands which have multiplied in value. The sum of £445 given in 1862 by Mr. William Charles Wentworth for the foundation of a travelling scholarship had, in December, 1915, accumulated to £4,060. Some prizes have been exhausted by award, but by careful investment, increases in value, unawarded scholarships, and other causes, these private foundations showed at 31st December, 1915, credit balances to the extent of £557,119.

These endowments include a sum of £30,000, bequeathed by Mr. Thomas Fisher, for a library, and £6,000 given in 1888 by Sir William Macleay for a Curatorship of the Natural History Museum, the collection contained in the Museum having been presented by him to the University, and for which the Government erected a suitable building. The Hovell bequest—made in 1877—of properties for the endowment of a Professorship in Geology and Physical Geography, is valued at £6,000; and Mr. John Henry Challis, in 1880, bequeathed his residuary real and personal estate, subject to certain annuities, to the University, “to be applied for the benefit of that Institution in such manner as the governing body thereof shall direct.” In December, 1890, the trustees of the Challis Estate handed over to the University the major part of the Australian portion of the estate, approximating to £200,000 in investments, together with a cash balance. The balance, bringing the capital of the fund to £276,856, was transferred to the University in 1905 upon the termination of the last annuity. Under the bequest the Senate has created Chairs in Law, Modern Literature, History, Logic and Mental Philosophy, Anatomy, Engineering, and Biology, and a Directorship in Military Science, in addition to four Lectureships in Law, and three Readerships. The Hovell and Challis bequests constituted, until 1896, the chief resources of the University for education, apart from the public endowments.

During 1896 Sir Peter Nicol Russell (formerly of Sydney) presented £50,000 for the purpose of endowing the Department of Engineering as the Peter Nicol Russell School of Engineering, and this gift was supplemented by a further grant of £50,000 in 1904, with the stipulations that efficient teaching in electrical engineering be provided and additional scholarships founded, and

that the Government should expend £25,000 upon buildings. Through this endowment, seven Lectureships in Engineering have been established, in addition to Assistant Lectureships and Instructors and Demonstrators are provided. The deeds of gift stipulate practical and theoretical teaching in Mechanical and Electrical Engineering, Surveying, Mining, Metallurgy, Architecture, and other instruction as the Senate deems necessary. The income of the Fund is applicable to the maintenance of the School, but is not chargeable with the costs for existing buildings, service of attendants, Professorships of Mathematics, Chemistry, Physics, Geology, nor for the Challis Professorship of Engineering. Three Scholarships in Mechanical Engineering, each of the annual value of £75, and tenable for four years, are provided out of the fund.

In 1909 the sum of £7,050 was given by Mr. Hugh Dixon to enable the University to purchase the Aldridge Collection of Minerals from the Barrier District of New South Wales.

University Receipts and Disbursements.

The following statement shows the amounts derived by the University from each of the principal sources of revenue, and the total expenditure, during each of the last nine years. Under the items are included sums received for special expenditure and amounts from benefactors to establish new benefactions:—

Year.	Receipts.					Disbursements.	Private Endowments Credit Balances.
	Government Aid.	Fees.	Challis Fund and other Private Foundations.	Other Sources.	Total.		
	£	£	£	£	£	£	£
1907	13,750	19,961	42,473	251	76,435	52,756	541,232
1908	21,084	19,672	22,781	665	64,202	58,959	543,752
1909	15,425	20,714	30,630	483	67,252	68,331	546,634
1910	18,800	19,453	25,756	296	64,305	63,764	549,295
1911	22,550	20,206	26,710	91	69,557	72,149	546,260
1912	43,956	20,590	25,797	97	90,440	78,785	547,165
1913	44,966	20,637	24,219	1,134	90,956	87,951	547,386
1914	43,783	20,151	25,643	1,106	90,683	88,870	556,450
1915	44,675	19,181	29,597	1,028	94,481	83,688	563,062

The Government aid received during the year 1915 included £44,025 statutory endowment and other sums for the establishment and extension of various departments, £300 for additions, repairs, and furniture, and £350 for Retiring Allowances Fund. The receipts from private foundations, £29,597, included £2,461 for annual prizes and new foundations; fees amounted to £19,181, and other receipts to £1,028, including £273 interest on investment of Retiring Allowances Fund. The credit balances of private endowments amounted to £563,062, viz. Private Foundations £245,153, Challis Fund £311,966, Retiring Allowances Fund £5,943.

The principal item of disbursements in each year is for salaries. In 1914 and 1915 the total expenditure was distributed as follows:—

Classification.	Amount.		Percentage of Total.	
	1914.	1915.	1914.	1915.
	£	£		
Salaries	61,575	60,653	70·9	72·5
Maintenance Apparatus, etc. ...	19,710	15,348	20·6	18·3
Buildings and Grounds	125	131	·3	·2
Scholarships and Bursaries	4,741	5,056	5·5	6·0
Other	2,719	2,500	2·7	3·0
Total	88,870	83,688	100·0	100·0

Faculties and Cost of Graduation.

Within the University there are four Faculties, viz., Arts, Law, Medicine, and Science, and in addition there are six Departments. A Dean for each Faculty is appointed for a period of two years. The Professors, with the Chancellor and Vice-Chancellor, form the Professorial Board which superintends matters relating to study and discipline. The degrees and diplomas given, and the cost of graduation, including lecture and laboratory fees, matriculation, and degree or diploma fees, and in the medicine and dentistry course, hospital fees, are as follow:—

Faculty or Department.	Degree or Diploma.	Minimum Term of Study.	Degree Fee.	Total Cost of Graduation.
		Years.	£	£ s. d.
Faculty of Arts	Bachelor of Arts. B.A. ...	3	3	55 8 0
	Master „ M.A. ...	2	5	.....
	Diploma in Education (post graduate).	1	3	18 15 0
Department of Economics and Commerce.	Diploma in Economics and Commerce.	3	1	19 18 0
	Bachelor of Economics. B.Ec.	3	3	55 8 0
Faculty of Law	Bachelor of Law. LL.B. ...	4	10	109 13 0
	Doctor „ LL.D. ...	2	10	.....
Faculty of Medicine... ..	Master of Surgery. Ch.M. ...	5	10	163 4 0
	Bachelor of Medicine. M.B. ...			
	Doctor „ M.D. ...	2	10	.....
	Diploma in Public Health (post graduate).	*	10	31 0 0
Department of Dental Studies.	Bachelor of Dental Surgery. B.D.S.	4	10	154 16 0
	.....	1	...	18 7 0
Pharmacy Course ... ..	.....	2	...	22 1 0
Faculty of Science	Bachelor of Science. B.Sc. ...	3	3	71 3 0
	Doctor „ D.Sc. ...	3	10	.....
Department of Engineering.	Bachelor of Engineering, B.E. ...	4	10	125 8 0
	Civil			
	Mining and Metallurgical Mechanical and Electrical			
Department of Veterinary Science.	Master of Engineering. M.E.	3	10	.....
	Bachelor of Veterinary Science. B.V.Sc.	4	3	80 12 0
Department of Agriculture	Bachelor of Science in Agriculture. B.Sc.Ag.	4	3	83 15 0
Department of Military Science.	Diploma in Military Science...	3	1	13 12 0

* Two terms.

The University also awards an Australian Diploma in Tropical Medicine on a post graduate course in the Faculty of Medicine; the cost is £17 17s., including degree fee of £5 5s.; the term of study is 3 months, and includes a course at the Australian Institute of Tropical Diseases, Townsville, Queensland.

Matriculation.

Students proceeding to degrees must qualify for entrance to the University by matriculating, the examination fee being £2.

The subjects of examination for matriculation are—

- (1) English.
- (2) Mathematics.
- (3) Latin, Greek, French or German; and
- (4) One or more of the following, depending on the Faculty or Department into which entrance is sought:—
 - (a) One or more languages not already taken.
 - (b) Mechanics.
 - (c) History (i.) English, (ii.) Modern.
 - (d) One of the following sciences:—Botany, Chemistry (Inorganic), Geology, Physics, Physiology, Zoology.

Of the above-mentioned certain subjects must be taken at a higher standard, as prescribed for admission to the respective faculties or departments of study, viz. :—

Arts: Latin or Greek, and one other subject. Law: Latin, and two other subjects. Medicine, Dentistry, Science and Agriculture: Three subjects, of which one must be Latin, Greek, French, or German. In the Department of Engineering, Mathematics, Mechanics, and one of the languages, Latin, Greek, French, or German, and a general paper in English, comprising questions in English and Geography, are prescribed. In the Department of Veterinary Science, and the Department of Economics and Commerce, two subjects, one of which must be Latin, Greek, French, or German.

Matriculation examinations are conducted in March of each year, but matriculation passes were obtainable also at the senior public examinations. In 1915, 324 students were admitted to the University. Persons of the minimum age of 21 years, not being graduates of any University, may be admitted as advanced students, and graduates in Arts with qualifications for advanced study and research may be admitted as advanced students in Science; they proceed to a Certificate of Research, and thence to the degree of B.A. or B.Sc.

In 1912 arrangements were made with the Government for acceptance, in lieu of matriculation examination, of the Leaving Certificate awarded by the Department of Education. The University is entitled to four representatives on the examining board for this certificate.

Lectures and Lectureships.

Non-matriculated students are admitted to lecture and laboratory practice, but are not eligible for degrees. Lectures are given during the daytime in all subjects necessary for the degrees and diplomas quoted above, and evening lectures are provided in the subjects of the Arts course, including elementary science. In 1912, arrangements were made whereby the Government Astronomer of New South Wales was appointed Professor of Astronomy in the University, and lectures are given in connection with this subject.

In 1915, the Teaching Staff included 24 professors, 8 assistant professors, and 104 lecturers and demonstrators; there were, in addition, 10 honorary

lecturers and demonstrators. Professors and most of the lecturers are paid fixed salaries, and the remainder receive fees. Provision is made for a pension scheme for professors appointed since 1898; the benefit will commence after twenty years' service, and after attaining the age of 50 years.

Degrees and Diplomas.

From the foundation of the University to the end of 1915 there have been 4,760 Degrees of various kinds conferred; male graduates numbered 4,085, and females 675. The Degrees conferred during 1914 and 1915, and the total Degrees from the foundation of the University to the end of 1915, are shown in the following statement:—

Degree.	Conferred during				Total to December, 1915.						
	1914.		1915.		Conferred by Examination.		Admitted <i>ad eundem</i> .		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
M.A. ...	16	1	7	2	359	55	25	2	384	57	441
B.A. ...	56	28	41	22	1,415	496	10	...	1,455	496	1,951
B.Ec. ...	3	1	...	...	3	1	...	...	3	1	4
LL.D. ...	...	...	...	...	22	...	3	...	25	...	25
LL.B. ...	10	...	12	...	220	1	5	...	225	1	226
M.D. ...	1	...	1	...	32	...	26	...	58	...	58
M.B. ...	102	2	102	5	822	46	9	...	831	46	877
Ch.M. ...	51	2	67	2	518	32	1	...	519	32	551
L.D.S. ...	...	...	...	...	28	2	...	...	28	2	30
B.D.S. ...	6	3	...	...	57	5	...	...	57	5	62
D.Sc. ...	9	...	...	...	9	...	9	...	18	...	18
B.Sc. ...	16	3	13	4	138	34	5	1	143	35	178
B.Sc. Agr	6	...	4	...	10	...	...	...	10	...	10
E.V. Sc.	11	...	1	...	15	...	...	...	15	...	15
M.E. ...	...	...	...	...	5	...	1	...	6	...	6
B.E. ...	20	...	26	...	307	...	1	...	318	...	308
Total	307	40	274	35	3,990	672	95	3	4,085	675	4,760

Diplomas are issued in Military Science, Public Health, Economics and Commerce, and Education. Massage and Pharmacy students attend certain courses, and certificates are issued for attendances and examinations passed.

The University has no power to confer honorary degrees, but may admit *ad eundem gradum* graduates of other recognised universities.

Students.

The following statement shows the number of students attending lectures at the University at intervals since 1876 :—

Year.	Matriculated.	Non-matriculated.	Total.	Year.	Matriculated.	Non-matriculated.	Total.
1876	34	24	58	1910	1,005	337	1,342
1886	122	81	203	1911	1,060	327	1,387
1896	438	16	454	1912	1,084	388	1,472
1906	836	218	1,054	1913	1,259	372	1,631
1907	871	307	1,178	1914	1,244	430	1,674
1908	875	449	1,324	1915*	1,385	437	1,822
1909	924	350	1,274				

* Includes 24 students taking more than one degree course.

The following table shows the distribution of the students attending lectures during 1915 :—

Department.	Matriculated.		Non-matriculated.		Total.
	Men.	Women.	Men.	Women.	
Arts	252	181	92	54	579
„ Post-graduate	16	21	...	...	37
Law	90	...	4	1	95
Medicine... ..	462	24	...	...	486
„ Dentistry	26	...	...	...	26
Science—Pure	36	52	7	1	96
„ Agricultural	8	..	4	1	13
„ Engineering	103	...	8	...	111
„ Veterinary	7	...	1	...	8
Pharmacy ... ..	...	...	51	8	59
Massage ... ..	...	...	12	...	12
Military History and Science	42	...	56	...	98
Economics and Commerce ...	45	4	127	10	186
Research Study	15	1	...	...	16
Total	1,102	283	362	75	1,822

Scholarships, Bursaries, and Fellowships.

Scholarships, exhibitions, and bursaries have been founded as rewards for proficiency and to place the advantages of a University education within the reach of students in straitened circumstances. They are awarded only when the examinations disclose a satisfactory degree of proficiency, and no student may hold more than two scholarships.

Candidates for bursaries are required to show that they do not possess sufficient means to attend the University. Bursaries to the number of nineteen are provided by the Senate; they are tenable only in the Faculties of Arts or Science (not including Engineering), and are supplemented, on the part of the Senate, with exemption from fees. In the case of the Struth Exhibition and the Henry Wait Bursary, awarded to students proceeding from the first year in the Arts course to the Faculty of Medicine, no exemption from payment of lecture fees is granted. In addition, bursaries are provided annually by the Government for pupils of State schools, and for those registered under the Bursary Endowment Act.

A Rhodes Scholarship of the value of £300 per annum, tenable for three years at the University of Oxford, is awarded annually to students of Sydney University; also a commission in the British Army is offered every year.

The following statement shows the number of students who attended University Lectures as non-paying students during the last five years:—

Year.	Public Exhibitions	State and University Bursars.	Government Officers.		Military Science.	Other.	Total.
			Departments of—				
			Public Instruction.	Agriculture and Veterinary.			
1911	...	49	160	7	49	30	295
1912	...	42	192	9	63	32	338
1913	...	49	221	9	82	24	385
1914	90	96	304	5	99	29	613
1915	213	64	332	...	79	29	767

Since 1912 Parliament has made an annual grant of £1,000 for Scientific Research Scholarships.

Fellowships available to graduates in science of the University include four annually under the Macleay bequest of £35,000 made in 1904 to the Linnean Society of New South Wales. These fellowships are intended to encourage research in Natural Science, by means of post graduate work; each is of the annual value of £400.

The Walter and Eliza Hall Engineering Fellowship, awarded annually to a graduate in Engineering of the University of Sydney of not more than four years' standing, is of the annual value of £300 for a maximum period of three years. Similar Fellowships were also founded for graduates in Agriculture, Veterinary Science, and Medicine.

The University enjoys the privilege, bestowed through the Orient Steam Navigation Co. (Ltd.), of allotting three first-class return passages to Europe to graduates desiring to continue studies abroad.

Clinics.

In 1873 the Government resumed land for the erection of the Royal Prince Alfred Hospital for the sick, which was designed as a General Hospital and Medical School for the instruction of University students, and for the training of nurses. The Hospital is open for students (during 42 weeks in each year) for certificates of hospital practice necessary for admission to final degree examination in medicine and surgery, and clinical lectures are delivered in accordance with the University curriculum. All appointments to the Medical and Surgical Staff of the Hospital are made conjointly by the Senate of the University and the Directors of the Hospital.

In 1911 Lectureships in Clinical Medicine and Clinical Surgery were increased from one to three each.

Sydney Hospital, founded in 1811, also provides a Clinical School under the direction of a Board of Medical Studies, and all appointments of clinical lecturers and tutors are subject to the approval of the Senate.

Other hospitals recognised as places where studies may be undertaken in connection with the Faculty of Medicine, are:—The Royal Hospital for Women, Royal Alexandra Hospital for Children, St. Vincent's Hospital, the Gladesville and Callan Park Mental Hospitals, the Women's Hospital, the Renwick Hospital for Infants, and the South Sydney Hospital for Women.

In connection with the Department of Dental Studies, the United Dental Hospital of Sydney was established in 1901, and provides facilities for instruction of students. It was amalgamated with the Dental Hospital of Sydney in 1905. The University lecturers in Surgical and Mechanical Dentistry are, *ex officio*, honorary dental surgeons of the Hospital.

Extension Lectures.

University Extension Lectures were inaugurated in 1886, and have been conducted since that date under the direction of a University Extension Board of eighteen members appointed annually by the Senate, and including at least four members of that body, and four of the teaching staff. Courses of Lectures are given in various centres upon topics of literary, historical, and scientific interest. At the conclusion of a course, which consists of a minimum of three lectures, an examination may be held and certificates awarded to successful candidates.

Tutorial Classes.

In accordance with the provisions of the University Amendment Act of 1912, the Senate has made arrangements for the establishment of evening Tutorial classes, which are open to unmatriculated as well as to matriculated students; diplomas may be issued to persons who have studied in these classes for at least one year in any one subject. Tutorial classes, which may be established in particular branches of study upon specific requisition by intending students, have been formed in suburban and country centres as well as at the University. In 1915 there were 21 classes—17 studied Industrial History and Economics, 2 Sociology, 1 Biology, and 1 Principles of Law; the total number of students enrolled was 400.

University Buildings.

The University buildings consist of the main building, containing the great hall, lecture rooms, and offices, all built of Pyrmont sandstone; the Medical School, which is in the same style; the Fisher Library, adjacent to

the main building, and designed to form part of the main quadrangle, is of modern design, with bookstacks of steel and glass for 200,000 volumes, and with ample reading-room accommodation for students.

Separate buildings for the Departments of Chemistry, Physics, Geology, Biology, Veterinary Science, Agricultural Science, and the Macleay Museum are distributed over the grounds, which, including lands vested by the Senate in the Affiliated Colleges, &c., cover an area of 126 acres. The Peter Nicol Russell School of Engineering has a separate building, provided by the State at a cost of £25,000. A building for the Teachers' College is now in course of erection.

Most of the buildings and equipment of the University have been provided by the Government.

Affiliated Colleges.

In the affiliated colleges within the University 144 students were in residence during 1915. Following are the figures relating to these colleges :—

College.	Members.	Students in Residence.	Principals and Lecturers.	Receipts.	Disbursements.
St. Paul's (C.E.) ...	185	30	4	£ 8,054	£ 8,641
St. John's (R.C.) ...	142	22	3	*	*
St. Andrew's (Pres.)...	272	65	9	6,600	7,200
Women's ...	115	27	2	2,335	2,182

* Information not available.

These colleges have been endowed from private sources with funds for scholarships, and each college is subsidised by the Government to the extent of £500 per annum for the Principal's salary. The Wesley College Incorporation Act, 1910, repealed an earlier Act of incorporation, and empowered the University to grant the land necessary for a college in lieu of the earlier grant for a Wesleyan Methodist College, which had been allowed to lapse. For the purpose of establishing a college the Government may subsidise the building fund by sums corresponding to the amounts expended for building by the college, out of its subscribed funds, up to a maximum of £20,000.

The Women's College is not attached to any religious denomination.

Reciprocity.

By Royal Charter in 1858 the same rank, style, and precedence were granted to graduates of the University of Sydney as are enjoyed by graduates of universities within the United Kingdom. The University of Sydney was affiliated to the University of Oxford in November, 1888, and later with the Universities of Cambridge and Dublin. The Universities of Oxford and Cambridge extend certain privileges to students of two-years' standing in the University of Sydney who desire to compete for honours, and graduates of Sydney, subject to certain conditions, are eligible for admission as advanced students at Cambridge, proceeding then to Degrees of Bachelor of Arts or of Law, or to Research Certificates.

Admission *ad eundem gradum* in the University of Sydney is obtainable by graduates of approved universities, viz., Oxford, Cambridge, London, Durham, Victoria, St. Andrew's, Edinburgh, Glasgow, Aberdeen, and Dublin, Queen's of Ireland, Royal of Ireland, Melbourne, New Zealand, and Adelaide, and of such other universities as the Senate may determine.

THE ARTS AND PROFESSIONS.

Prior to the recent establishment of the Conservatorium of Music there was no organised State system of higher training for the arts, apart from the initiatory work of instruction in art manual work and in singing, as portion of the syllabus work of the State schools; and practically all the preparation for art careers was undertaken by private schools.

In the Technical Education scheme provision is made for teaching art work, modelling, and painting, and elementary instruction is available in the State schools in drawing and the theory of music. But though the State system of education made no direct provision for higher training in this connection, it offered encouragement indirectly by means of subsidies, such as that to the Royal Art Society of New South Wales, and by the maintenance of libraries, museums, and especially of the National Art Gallery.

Conservatorium of Music.

During 1912 the Government of New South Wales decided to establish a Conservatorium of Music; portion of the buildings used formerly in connection with the Government House was remodelled for the purpose, and was opened in 1915. The Director and other officers have been appointed, and the educational work of the institution commenced in 1916.

A Library of Music has been instituted; it contains many valuable works which are available for the use of recognised musical societies and organisations.

Medical and Legal Professions.

In New South Wales the majority of professional workers are connected with a society or association peculiar to their particular profession, and in most cases, excluding of course those professions for which the University of Sydney supplies preparation, such associations direct the educational work for entrance to the profession, mainly by conducting examinations and issuing certificates. Physicians, dentists, and pharmacists are bound by statute to register with the Medical, Dental or Pharmacy Board before they can proceed to practise, and barristers and solicitors must be formally admitted to their profession.

For the medical and legal professions and in various branches of science the University provides the requisite training. The practice of medicine is restricted to persons registered by the New South Wales Medical Board under the Medical Practitioners Act of 1912 and its amendment of 1915. To become a legally qualified medical practitioner an applicant must prove to the satisfaction of the Board (a) that he is a doctor or bachelor of medicine of some University, or a physician or surgeon licensed or admitted as such by a college of physicians or surgeons in Great Britain or Ireland; (b) that he has completed a medical course of a University or equivalent college, and has received after examination a diploma, degree, or license entitling him to practise medicine; (c) or he is a member of the Company of Apothecaries of London, or a member or licentiate of Apothecaries' Hall, Dublin. Medical officers duly appointed in His Majesty's sea or land service are eligible for registration.

During the last five years the registrations of medical practitioners have averaged 118 per annum, and at 31st December, 1915, there were 2,193 registrations in force. Holders of degrees of M.D., M.B., and Ch.M., conferred by the University of Sydney, are entitled to registration and recognition in the United Kingdom in the same way as holders of similar degrees conferred by a British University are recognised in New South Wales.

To qualify before the Dental Board of New South Wales, in terms of the Dentists Act, 1912, and its amendments, dentists must hold a recognised certificate; or have been engaged for not less than four years in acquiring a professional knowledge of dentistry, and passed an examination; or produce a diploma in dentistry from an Australian University. Unregistered persons in actual practice, or preparing for the profession at the time of passing of the Dentist's (Amendment) Act, 1916, may obtain registration upon the fulfilment of prescribed conditions. At 31st December, 1915, there were 1,366 registrations in force.

Following is the record of students in the School of Dentistry at the United Dental Hospital:—

Year.	Students.			Year.	Students.		
	Dental Board.	University.	Total.		Dental Board.	University.	Total.
1908	21	37	58	1912	47	21	68
1909	24	27	51	1913	4	20	24
1910	23	38	61	1914	1	24	25
1911	14	31	45	1915	...	18	18

Pharmacists are registered under the Pharmacy Board appointed under the Act of 1897. To qualify for registration, evidence must be adduced of three years' apprenticeship in the business of a pharmacist keeping open shop; or of holding a certificate of competency from a recognised College or Board; or of registration under the Sale and Use of Poisons Act; or of having passed a preliminary examination before the Board, or the usual examinations of a recognised college or university.

The Board is charged with the publication, in January of each year, of a list of all registered pharmacists. At the end of 1915 the registrations in force numbered 1,200. In addition to qualified pharmacists, other dealers in poisons must be registered before the Pharmacy Board and obtain annual licenses; 355 such poison licenses were in force at 31st December, 1915. During the past five years the registrations of pharmacists have averaged 49 per annum.

Members of the nursing profession are registered and certificated by the Australasian Trained Nurses' Association, which was established in New South Wales in 1899, and has branches in the other States. For the year ended 30th June, 1916, the number of nurses on the register in New South Wales was as follows:—General, 1,676; Obstetric, 961; Medical Members, 90; Mental Nurses, 36; Honorary Members, 24.

Information regarding ambulance and first-aid instruction will be given in a later chapter of this Year Book.

Barristers and solicitors may proceed through the courses provided in the Law School at the University, or they may qualify for admission by the Bar

examinations. Barristers practising in New South Wales at the end of 1915 numbered 161; solicitors at the same date numbered 1,073, viz., 431 in the country, and 642 in Sydney.

Men desirous of entering into articles of clerkship with Attorneys, and who have not taken a University Degree, nor passed the preliminary examination required in England, Scotland, and Ireland, are required to pass a preliminary examination conducted by the University. The standard of the law matriculation examination is the University matriculation examination, lower division. Clerks are also required to pass three subsequent examinations in Legal History and Law before application for admission as solicitors. The examinations are conducted by a Board appointed by the Supreme Court. During 1915, 52 candidates were examined and 22 passed; the figures for the previous year were: 51 examined and 23 passed.

PUBLIC ACCOUNTANTS, CLERKS, ETC.

The profession of public accountant has not been regulated by law in New South Wales; there are, however, a number of accountants' societies which conduct examinations for the admission of members. The results of the examinations in 1915 are shown below:—

Institution.	Candi- dates.	Passes.					Mem- bers at end of year.
		Prelimi- nary.	Intermediate.		Final.		
			Account- ancy.	Legal.	Account- ancy.	Legal.	
Association of Accountants of Australia (incorporated)	14	...	4	4	3	2	70
Australasian Corporation of Public Accountants	162	18	25	20	12	15	181
The Institute of Public Accountants of Australasia	9	...	2	2	3	2	104
Incorporate Institute of Accountants, Victoria (N.S.W. Branch)	203	...	48	48	19	50	141
Institute of Incorporated Accountants of N.S.W.	80	6	11	21	3	9	126
Society of Incorporated Accountants and Auditors, England	2	...	...	...	1	1	13
Federal Institution of Accountants, N.S.W. Division	37	...	14	5	4	4	71

A Select Committee appointed by Parliament in December, 1914, to report upon matters relating to accountancy, recommended that the profession should be given legal status under a controlling board.

Examinations for bank clerks are conducted by the Institute of Bankers; the results during the last ten years were as follows:—

Year.	Examined.	Passed.	Year.	Examined.	Passed.
1906	271	131	1911	280	150
1907	260	162	1912	300	152
1908	226	120	1913	257	139
1909	251	128	1914	276	122
1910	268	182	1915	339	149

Persons desirous of acting as clerks, auditors, engineers, and overseers, in connection with the Local Government Services are required to furnish evidence of their efficiency, in accordance with the provisions of the Local Government Acts. Particulars of examinations in 1914 and 1915 are shown below :—

Positions.	1914.		1915.		No. of certificates issued to 31st December, including those granted without examination.
	Examined.	Passed.	Examined.	Passed.	
Clerks	123	27	74	16	422
Auditors	11	5	11	5	334
Engineers	7	3	10	2	324
Interim Certificates...	2	2	5	2	14
Overseers	4	1	...	...	80
Total	147	38	100	35	1,174

Examinations for admission of Junior Clerks and Draftsmen to the Public Service of New South Wales have been conducted under the supervision of the Public Service Board. During 1915 there were 443 candidates for 130 vacancies for junior clerks, 175 were successful; for 11 vacancies for cadet draftsmen there were 75 candidates, of whom 18 attained the requisite standard; for 5 vacancies for forestry cadets there were 4 candidates, 1 being successful. The Public Service Board has recently adopted the certificate examinations of the Education Department for admission of persons to the service.

EDUCATIONAL AND SCIENTIFIC SOCIETIES.

Various organisations exist which have for their objective the encouragement of professional interests, the advancement of Science, Art, and Literature, and the promotion of the social well-being of the members. The Commonwealth Government has afforded a measure of recognition to the efforts of Australian men of letters by establishing in 1908 a Commonwealth Literary Fund to provide pensions and allowances to literary men and their families. Particulars of the operations of this Fund will be shown in a later chapter of this Year Book.

As far back as the year 1821 a scientific society, under the title of the Philosophical Society of Australasia, was founded in Sydney, and after many vicissitudes of fortune was merged, in 1866, into the Royal Society of New South Wales. Its objects are the advancement of science in Australia, and the encouragement of original research in all subjects of scientific, artistic, and philosophic interest, which may further the development of the resources of Australia, draw attention to its productions, or illustrate its natural history.

The study of the botany and natural history of Australia has attracted many enthusiastic students, and the Linnæan Society of New South Wales was established for the special purpose of furthering the advancement of these particular sciences. The Society has been richly endowed through the munificence of the late Hon. Sir William Macleay, and possesses a commodious building at Elizabeth Bay, Sydney, attached to which are a library and museum. The proceedings are published at regular intervals, and contain many valuable papers, with excellent illustrations of natural history.

Other important scientific societies are the Royal Zoological Society of New South Wales, inaugurated in 1879; a branch of the British Medical

Association, founded in 1881; a branch of the British Astronomical Association, whose first meeting was held in 1895; the Royal Anthropological Society of Australasia; the Australasian Association for the Advancement of Science; the Royal Geographical Society; the University Science Society; and the Australian Historical Society.

All the learned professions are represented by associations or societies.

The Royal Art Society holds an annual exhibition of artists' work at Sydney; and of the many musical societies, mention may be made of the Royal Sydney Apollo Society, and the Royal Sydney Philharmonic Society.

During the year ended 30th June, 1916, there were 169 associations for the advancement of agriculture, horticulture, and pastoral pursuits, of which 17 were subsidised by the Government. Of these societies, the Royal Agricultural Society of New South Wales holds an annual show at Sydney.

MUSEUMS, LIBRARIES, AND ART GALLERIES.

Recognising that Museums, Libraries, and Art Galleries are powerful factors in promoting the intellectual well-being of the people, the Government of New South Wales has been active in founding and maintaining such establishments.

The following statement shows the total expenditure by the State on buildings for Museums, Libraries, and Art Galleries, to 30th June, 1916:—

Museums—	£	Libraries—	£	£
Australian	79,397	Public, of N. S. Wales...	28,957	
Agricultural, Forestry, Mining and Geological.	14,191	Mitchell	43,118	
Technological	19,366			72,075
Botanical—Herbarium	11,436	Fisher—Sydney University ...	111,903	
		National Art Gallery	94,437	
		Total		£402,805

All these institutions are open to the public free of charge.

Museums.

The Australian Museum, the oldest institution of its kind in Australia, was founded in Sydney in 1836 as a Museum of Natural History; it contains fine specimens of the principal objects of natural history, and a valuable collection of zoological and ethnological specimens of distinctly Australian character, for which special accommodation was provided in a separate wing opened in 1910. The specimens acquired during 1915 numbered 10,286 of which 1,958 were purchased, and the remainder collected, exchanged, or donated. A fine library is attached to the institution, containing many valuable publications, the volumes numbering about 22,000. Lectures and gallery demonstrations are given in the Museum, and are open to the public. On Mondays students and artists only are admitted.

In 1853 the Museum, till then managed by a committee, was incorporated under control of trustees, with a State endowment, which is now supplemented by annual Parliamentary appropriations. Following is the record of expenditure for years ended 30th June, 1915 and 1916:—

	1915.	1916.
	£	£
Salaries and allowances	7,824	8,161
Purchase, collection, and carriage of specimens...	292	288
Books and binding	432	167
Catalogues and publications	458	94
Cases, bottles, and receptacles	368	119
Other	939	885
Total	£10,363	£9,714

A Technological Museum was instituted in Sydney at the close of 1879 under the administration of a committee of management appointed by the trustees of the Australian Museum. The whole original collection of some 9,000 specimens was destroyed in 1882 by fire. Efforts were at once made to replace the lost collection, and in December, 1883, the Museum was again opened to the public. In 1890 it was transferred to the Department of Education, as an adjunct to the Technical College, and now contains a valuable series of specimens illustrative of various stages of manufacturing, and an excellent collection of natural products. Technological Museums are established also at Goulburn, Bathurst, West Maitland, Newcastle, and Albury. The exhibits in the central and branch museums exceed 115,000, acquired by purchase, gift, loan, and exchange.

Research work is conducted by the scientific staff of the Technological Museum in connection with the development of the natural vegetable resources of Australia, particularly in respect of the pines and eucalypts.

Following are the records of attendance at museums in 1915 :—

Museum.	Visitors.			Average Attendance.		Expenditure.
	Week-days.	Sundays.	Total.	Week-days.	Sundays.	
Australian... ..	115,427	45,715	161,142	431	958	£ 9,714
Technological—						
Sydney	52,018	39,061	91,079	167	751	} 5,299
Newcastle	29,962	.....	29,962	99	.....
Bathurst	34,607	.....	34,607	114	.....
West Maitland	33,150	.....	33,150	109	.....
Goulburn	23,700	.....	23,700	78	.....
Albury	6,200	.....	6,200	39	.....

The Technological Museum at Albury was closed on 13th July, 1915, for removal to new building, and was not re-opened during that year.

Additions to the collections in Technological and Australian Museums in the last two years are classified as under :—

Classification.	1914.	1915.	Classification.	1914.	1915.
AUSTRALIAN MUSEUM.			TECHNOLOGICAL MUSEUM.		
Vertebrata	1,619	1,420	Mineral	1,878	180
Invertebrata	6,020	6,906	Vegetable	371	198
Fossils and Minerals	1,153	1,132	Animal	22	61
Ethnological and Historical... ..	462	702	Applied Art & Miscellaneous	323	101
Miscellaneous	258	126			
Total	9,512	10,286	Total	2,594	540

The Mining and Geological Museum is connected with the Department of Mines. Exhibits numbering 984 were acquired during 1915, viz., 692 by collection and 292 otherwise.

The functions of the Mining and Geological Museum include the preparation of collections of minerals to be used as teaching aids in schools and in other institutions. During 1915, 10 collections, comprising 1,300 specimens, were prepared; and many specimens received from country schools were classified.

The Agricultural and Forestry Museum is an adjunct of the Department of Agriculture and contains 7,310 exhibits.

The public have access to the "Nicholson" Museum of Antiquities, the "Macleay" Museum of Natural History, the Museum of Normal and Morbid Anatomy, attached to the Sydney University, and the National Herbarium and Botanical Museum at the Botanic Gardens. Housed in the Macleay Museum is the Aldridge collection of Broken Hill minerals.

PUBLIC LIBRARIES.

The principal public libraries, with the number of volumes in each at the end of the last three years, are shown in the following statement:—

Library	Total number of volumes.		
	1913.	1914.	1915.
Public Library of New South Wales—Reference	181,367	188,587	197,394
Mitchell	77,375	81,678	85,240
Sydney University (Fisher Library)	100,000	100,000	100,000
Australian Museum	20,000	20,000	22,000
Botanical Museum	6,500	6,578	7,328
Technical College and Branches	13,271	14,048	14,260
Sydney Municipal Library	29,963	32,902	30,495
Other Municipal Libraries	31,744	27,938	28,262
Schools of Arts, Mechanics' Institutes, &c. ...	657,807	734,623	691,102
State Schools	358,177	367,406	365,343
Teachers' College	7,540	8,060	9,845
Total	1,486,744	1,581,820	1,551,269

PUBLIC LIBRARY OF NEW SOUTH WALES.

The Public Library of New South Wales was established, under the designation of the Free Public Library, on 1st October, 1869, when the building and books of the Australian Subscription Library, founded in 1826, were purchased by the Government. The books thus acquired numbered about 16,000, and formed the nucleus of the present Library. In 1890 the Library was incorporated under its present designation, with a statutory endowment of £2,000 per annum for the purchase of books.

The scope of the Public Library, which is essentially a reference institution, is extended by a loan system, under which boxes, containing from 60 to 100 books, are forwarded to country libraries, schools of arts, progress associations, &c., to lighthouses, and to Public School Teachers' Associations. These collections are to be returned or exchanged within four months. This system was initiated in August, 1883, and has been extended gradually, the Lighthouse Library being taken over in 1903.

Loan operations during 1915 included the following :—

	No.	Volumes.
Country Libraries	81	6,881
Lighthouses	26	1,970
Public School Teachers' Associations	38	3,032
Country Students	—	1,848

Students are expected to pay return freights on parcels, but all the other charges are defrayed by the State.

In 1915 the Reference Department of the Public Library contained 197,394 volumes, including volumes for country libraries under the lending system.

The total cost to the State of the library buildings was £28,957.

In 1899 Mr. David Scott Mitchell donated to the trustees of the Public Library a collection of 10,024 volumes, together with 50 valuable pictures, and at his death, in 1907, bequeathed to the State the balance of a unique collection, principally of books and manuscripts relating to Australasia, and containing over 60,000 volumes, and 300 framed paintings of local historic interest, valued at £100,000. He also endowed the Library with an amount of £70,000, from which the income amounting to about £2,750 per annum is expended on books and manuscripts. The Mitchell Library is located in a separate building which was opened in March, 1910. During 1915, over 3,500 volumes were added to the original collection, making a total of 85,240 volumes in the library.

The attendance at the Public Library during 1915 was as follows :—

Branch.	Visitors during Year.			Average Attendance.	
	Week-days.	Sunday (afternoon).	Total.	Week-days.	Sunday (afternoon).
Reference	158,297	10,169	168,466	509	195
Mitchell	15,068	.....	15,068	48	...

The following statement shows the cost of maintenance and administration of the Public Library, including the Mitchell Library, for the last five years :—

Year.	Salaries.			Books, &c., and Binding.	Miscel- laneous.	Total.
	Reference.	Mitchell.	Country Libraries.			
	£	£	£	£	£	£
1911	4,121	2,201	115	2,178	1,616	10,231
1912	4,398	2,431	137	1,885	1,687	10,538
1913	4,534	2,521	200	2,409	2,306	11,970
1914	4,641	2,421	200	1,881	2,235	11,378
1915	4,897	2,438	229	2,820	2,181	12,565

SYDNEY MUNICIPAL LIBRARY.

The Sydney Municipal Library was formed by the transfer to the City Council in 1908-9 of the lending branch of the Public Library.

An "open access" system has been introduced, and a new classification adopted. For the year 1915 the classification of the volumes in the Sydney Municipal Library was as follows :—

Classification.	Old Portion.		Classification.	Open Access Portion	
	Volumes.	Average Daily Issue.		Volumes.	Average Daily Issue.
Natural Philosophy, Science, the Arts ...	1,973	·45	Natural Science ..	1,193	33·00
History, Chronology, Antiquities, Mythology	2,196	1·02	Useful Arts	2,425	62·90
Biography, Correspondence	2,780	·67	Fine and Recreative Arts	939	30·19
Geography, Topography, Voyages, Travels, &c.	1,461	·07	History	920	25·15
Jurisprudence	776	·28	Biography	1,163	29·96
Moral and Mental Philosophy	998	·27	Geography, Topography		
Poetry, Drama	667	·26	Travel, Description ...	999	34·28
Miscellaneous—General, Philology	1,296	·56	Social Science	1,769	31·12
Total	12,147	3·57	Philosophy, Religion ...	798	19·68
			Poetry, Drama	851	25·58
			Fiction	4,170	205·81
			Literature	1,145	31·56
			Miscellaneous	107	·63
			Juvenile Section ...	1,869	120·13
			Total *	18,348	650·34

Maintenance costs during 1915 amounted to £4,882, made up as follows :—Salaries, &c , £3,236 ; books, periodicals, binding, and electric lighting, £1,646.

OTHER LIBRARIES.

Local libraries established in the principal population centres throughout the State, may be classed broadly under two heads—Schools of Arts, receiving an annual subvention in proportion to the amount of monetary support accorded by the public ; and Free Libraries, established in connection with municipalities. Those of the former class preponderate, and in 1915 there were 431 such libraries with 691,102 volumes. Under the provisions of the Local Government Act, any shire or municipality may establish a public library, art gallery, or museum, and at the end of 1915 there were, in addition to the Sydney Municipal Library, 29 municipal libraries with 28,262 volumes.

The library of the Australian Museum, though intended primarily as a scientific library for staff use, is accessible to students, and about 22,000 volumes may be found on the shelves.

On 31st December, 1915, the library in connection with the Technological Museum, at the Central Technical College, and its branches, contained 14,260 text books, &c.

The Parliamentary Library contains over 52,000 books, and large numbers of volumes are at the libraries of the Law Courts and Government Offices.

The Bush Book Club, a private foundation, is intended to provide books to people in localities not served usually by Schools of Art, &c., and in sparsely settled districts.

Private circulating libraries, the subscribers to which are charged comparatively small fees, are used extensively.

NATIONAL ART GALLERY OF NEW SOUTH WALES.

The National Art Gallery contains a good collection of paintings and statuary, including some works of prominent modern artists, and some valuable gifts from private persons ; there is also a fine collection of water colours.

The present value of the contents of the Gallery is £149,500, and the cost of the building to 30th June, 1916, was £94,437.

The number of paintings, &c., in the Gallery at the end of year 1915, and the amount expended in purchasing works of art during that year, are shown below :—

Classification.	Paintings, &c., in Gallery.	Expenditure during year.
		£
Oil Paintings	427	1,910
Water Colours	397	30
Black and White Works	594	127
Statuary, Casts, and Bronzes	168	536
Various Art Works in Metals, Ivory, Ceramics, Glass, Mosaic, &c.	422	77

The attendance at the National Art Gallery during the last nine years has been as follows ; the decrease during 1915 is attributed to the war :—

Year.	Visitors in the Year.		Average Attendance.	
	Week Days.	Sundays.	Week Days.	Sundays.
1907	165,638	95,194	532	1,830
1908	184,767	104,340	592	2,066
1909	173,361	99,730	557	1,918
1910	171,686	98,059	548	1,897
1911	183,745	104,319	567	2,006
1912	192,532	116,863	620	2,247
1913	178,362	118,583	569	2,280
1914	172,185	113,654	553	2,185
1915	145,692	87,401	465	1,640

Art students, under certain regulations, may copy any of the various works, and enjoy the benefit of a collection of books of reference on art subjects. In 1894 a system of loan exchanges between Sydney, Melbourne, and Adelaide was introduced, by which pictures are sent from Sydney to Melbourne and Adelaide and reciprocally, with results most beneficial to the interests of art. Since 1895 the distribution of loan collections of pictures to the principal country towns is permitted for temporary exhibition ; during 1915, 115 pictures were so distributed among ten country towns.

The disbursements in connection with the Art Gallery during the last five years were :—

	1911.	1912.	1913.	1914.	1915.
	£	£	£	£	£
Works of art	2,369	2,868	2,817	2,511	2,680
Salaries, &c.	2,312	2,416	2,495	2,532	2,412
Sundries	612	763	689	646	1,011
Total	£5,293	£6,052	£6,001	£5,689	£6,103

The annual endowment is £2,000, payable in accordance with the provisions of the Library and National Art Gallery Act ; in 1912, pending the amendment of the Act, this amount was increased by £1,500. The greater portion of this additional grant is expended on works of local artists. The Gallery has received but small support from private endowments, and, consequent upon its limited funds, is restricted mainly to the collection of specimens of contemporary art.

The Wynne Art Prize was instituted in 1897, and consists of the interest on approximately £1,000, which is awarded annually to the Australian artist

producing the best landscape painting of Australian scenery in oils or water colours, or the best production of figure sculpture executed by an Australian sculptor.

SCHOOLS OF ARTS, ETC.

Schools of Arts, and Mechanics' or Working Men's Institutes, are established in nearly all centres of population throughout New South Wales. Particulars for the last four years regarding these institutions, which are really libraries and recreation centres, are given below :—

Particulars.	1912.	1913.	1914.	1915.
Institutions	433	425	432	431
Membership	47,749	47,060	51,919	42,550
Books	660,168	650,807	734,623	691,102
	£	£	£	£
Value of library contents...	63,890	68,783	69,275	61,423
„ buildings	349,001	367,639	386,230	372,215
Government subsidy	11,152	9,734	11,059	7,070
Subscriptions	19,645	20,674	21,118	20,362
Other receipts	53,671	60,647	66,384	55,012
Expenditure—				
Books, &c.	11,288	13,243	13,391	10,914
Maintenance, &c.	73,994	81,369	81,847	71,455

Other receipts in 1915 include £19,038 on account of billiards; expenditure for maintenance includes £9,303 in this connection.

The Sydney Mechanics' School of Arts is the principal institute, having a membership of 2,133 and a library of 33,412 volumes. This institution was formed in 1833, essentially as a mechanics' institute, and was intended to provide opportunities for evening study for those employed during the day. In 1873 the Working Men's College was formed, but this section, devoted to the mechanic trades, was taken over by the Government in 1883 and so carried on till 1893, when the Technical College was opened. The educational work of the evening school has been continued at the institute, and classes for adults are held in literary and commercial subjects.

LAND LEGISLATION AND SETTLEMENT.

AREA OF NEW SOUTH WALES.

THE area of New South Wales, including Lord Howe Island of 5 square miles and the Federal Capital Territory of about 900 square miles, as stated previously in this Year Book, is estimated at 310,372 square miles, or 198,633,080 acres, being a little over two and a half times that of Great Britain and Ireland. Excluding the surface covered by rivers and lakes, the area within the boundaries of the State is 195,669,000 acres, or about 305,733 square miles, of which the greater portion has been alienated under various forms of tenure, classified as freehold or leasehold. The formal transfer on 1st January, 1911, of 576,000 acres at Yass-Canberra to the Commonwealth Government as Federal Capital Territory, reduced the land surface of the State to 195,093,000 acres.

Territorial Divisions.

Under various Acts the State is divided into three territorial divisions, Eastern, Central, and Western, the boundary lines running approximately north and south.

Control of the lands within the Western Division is vested in the Western Land Board, consisting of three Commissioners. The Eastern and Central Divisions are subdivided into Land Districts, in each of which is stationed a Crown Land Agent, whose duty is to receive applications and furnish information regarding land. Groups of these districts are arranged in larger areas, under the control of Land Boards, whose decisions are subject to review by the Land Appeal Court, which is composed of a President and two Commissioners, whose awards in matters of administration have the force of judgments of the Supreme Court. Whenever questions of law arise, a case may be submitted to the Supreme Court, either on the written request of the parties interested, or by the Land Appeal Court. The conditions of alienation and pastoral occupation of Crown lands differ in each of the three divisions of the State.

The Eastern Division has an area of 60,684,326 acres (exclusive of an area of 576,000 acres Commonwealth territory), and includes a broad belt of land between the sea-coast and a line nearly parallel to it, starting from a point midway between the small settlements at Bonshaw and Bengalla on the Dumaresq River, and terminating at Howlong, on the River Murray, thus embracing the coastal districts of the State, as well as the northern and southern tablelands. In this division is excellent agricultural land, and all the original centres of settlement, which are readily accessible to the markets of the State. For these reasons, the conditions governing the purchase and occupation of the Crown lands in the Eastern Division are more stringent than is the case in the Central and Western Divisions.

The Central Division embraces an area of 57,055,846 acres, extending from north to south between the western limit of the Eastern Division and a line starting from a point on the Macintyre River, where it is crossed by the 149th meridian of east longitude, and following this river and the Darling to the junction of Marra Creek; thence along that creek to the Bogan River, and across to the River Lachlan, between the townships of Euabalong and Condobolin, along the Lachlan to Balranald, and thence to the junction of the Edward River with the Murray. The area thus

defined contains the upper basin of the Darling River in the northern part of the State, and in the south portions of the basins of the Lachlan, the Murrumbidgee, and other affluents of the Murray. The land in this division has been devoted mainly to pastoral pursuits; but experience having proved that it is suitable for agriculture, the cultivated area is increasing steadily.

The Western Division is situated between the western limit of the Central Division and the South Australian border. It contains an area of 80,318,708 acres, watered by the Darling River and its tributaries, and is devoted to pastoral pursuits. Water conservation and irrigation are the factors which ultimately will counteract climatic conditions and irregular rainfall, and make agriculture possible over this large area, of which the soil is adapted to the growth of most crops; but legislation in regard to the occupation of the lands of the district is based upon the assumption that for many years to come there will be little inducement for agricultural settlement.

METHODS OF ACQUISITION AND OCCUPATION.

Under the Acts now in force, land in the Eastern and Central divisions of the State may be acquired by the following methods:—

- (1) Conditional and additional conditional purchase with residence;
- (2) Conditional purchase without residence;
- (3) Classified conditional purchase;
- (4) Preferent right of purchase attached to conditional leases;
- (5) Improvement purchases on gold-fields;
- (6) Auction sales;
- (7) After-auction sales;
- (8) Special sales without competition;
- (9) Exchange;
- (10) Settlement purchase, under Closer Settlement Acts;
- (11) Homestead farms;
- (12) Suburban holdings;
- (13) Irrigation farms.

Crown lands may be occupied under the following systems of lease:—

- (1) Annual;
- (2) Special conditional purchase;
- (3) Conditional;
- (4) Inferior lands;
- (5) Occupation license;
- (6) Scrub;
- (7) Special;
- (8) Residential on gold and mineral fields;
- (9) Improvement;
- (10) Snow-lands;
- (11) Crown;
- (12) Week end;
- (13) Town lands.

The maximum area which may be purchased conditionally differs in the Eastern and Central Divisions according to the method of acquisition shown in the statement above. In the Western Division land may be alienated by auction or occupied under lease.

In 1908 an Amending Act (providing for conversions other than conditional leases) was passed, under which homestead selections and homestead grants, settlement leases, non-residential conditional purchases, special leases, Church and School lands leases may be converted, under certain conditions, into all or portion of the following tenures, viz.:—Conditional purchase lease,

conditional purchase or a conditional purchase and conditional lease. In the case of special leases, and of Church and School lands leases, it is also allowable to convert the whole or part into a homestead selection, a settlement lease or a conditional lease. Also, the holder of any residential lease, including any additional residential leases held by virtue thereof, may apply to purchase the same at any time after expiry of the first five years of the lease. A further Amending Act, in 1912, provides for the conversion of settlement purchases and homestead selections into homestead farms.

Conditional Purchase.

Unreserved Crown lands in the Eastern and Central Divisions not held under pastoral or other lease, are available for conditional purchase, and lands held under annual lease or occupation license may also be acquired in this way, if not otherwise reserved. Land under conditional lease in any division may be purchased conditionally by the leaseholder only. Lands within suburban boundaries or within population areas may be proclaimed as special areas, and are open to conditional purchase under the special conditions prescribed. The value of any improvements on a conditional purchase must be paid by the applicant.

A residential conditional purchase may be taken up by males over age 16, or by females over age 18, provided that a woman must be unmarried, or a widow, or judicially separated from her husband; for a non-residential conditional purchase the minimum age limit is 21 years. Every conditional purchase must be made solely in the interest of the applicant. Minors who become conditional purchasers have the rights and liberties of persons of full age in connection with their land.

The minimum and maximum areas allowed for each class of conditional purchase are as follow :—

Class.	Division.	Minimum Area.	Maximum Area.
		acres.	acres.
Residential	Eastern	40	1,280
„	Central	40	2,560
Non-residential... ..	Eastern	40	320
„	Central	40	320
Special area	Eastern ... ..	.....	320
„	Central ... ..	.....	640

With regard to special areas, both the minimum and maximum areas are subject to proclamation in the *Government Gazette*, and are, therefore, liable to limitation. Any conditional purchaser may take up the maximum area at once, or by a series of purchases at convenient intervals. With the exception of non-residential purchases, provision is made in the Crown Lands Amendment Act, passed in 1908, that the specified maximum areas may be exceeded by means of additional holdings, the area of which, together with all other lands held, other than a lease having less than five years to run (unless with a right to purchase the freehold) must not exceed a home-maintenance area. By this is meant an area which, used for the purpose for which it is reasonably fitted, would be sufficient for the maintenance in average seasons and circumstances of an average family. Additional holdings need not necessarily adjoin the original holdings, but must be situated within a reasonable working distance. Homestead farms and Crown leases also may be acquired as additional areas in certain circumstances.

Under the Crown Lands Amendment Act of 1905 areas may be set apart for original holdings, or for additional holdings; but no such area may

be selected under both classes of holdings. Original holdings include (a) original conditional purchases and (b) original conditional purchases and conditional leases taken up in respect of, and at the same time as, the original conditional purchase within the area. Additional holdings include (a) additional conditional purchases and (b) conditional leases other than those previously mentioned. Values and rentals are specified in the official notices under the Act. Lands may be classified and set apart, by notification, at specified prices.

Applications for conditional purchase, or for additional conditional purchase, must be lodged with the Crown Lands Agent of the district in which the land is situated, and a deposit and survey fee paid at the same time. The statutory price of ordinary Crown lands is fixed at £1 per acre for residential conditional purchase, but in special areas and on lands within classified areas the price per acre may be either above or below that amount. The deposit on all residential conditional purchases is at the rate of 5 per cent. of the capital value, but on non-residential conditional purchases the price of the land is doubled, the deposit being at the rate of 2s. in the £ of such increased value; at least one-tenth of the survey fee must be lodged with the application unless such fee has been paid by a previous holder and stamp duty must be paid. Deposit and survey fee may be dispensed with in connection with an application for a holding within a classified area if such be lodged during the first week the land becomes available, but must be subsequently paid as directed by the Land Board. Under ordinary conditions the balance of purchase money, with interest at $2\frac{1}{2}$ per cent. per annum, is cleared off by twenty-seven annual payments of 1s. per acre, and a subsequent final lesser payment. The first instalment is due on the expiration of three years from the date of the contract.

A resident conditional purchaser in certain circumstances may reduce his annual instalment of 1s. to 9d. per acre, but in the event of reduction to the latter amount, it will take the selector about forty-one years to pay. Under special circumstances a similar privilege may be extended to conditional purchasers not in residence. By the Crown Lands Act Amendment Act of 1903, the rate of interest on the balance of purchase money was reduced from 4 to $2\frac{1}{2}$ per cent. per annum, being retrospective only in special circumstances.

Upon receipt of an application for a conditional purchase the Land Board may cause the land to be surveyed and a report to be supplied by the surveyor; and may either confirm or disallow the application. In case of confirmation a certificate is issued to the applicant.

The original conditional purchase must be occupied continuously by the selector for a period of ten years, and residence must be commenced within three months after the application has been confirmed by the Land Board. Residence may be suspended conditionally, or remitted by the Land Board, for sufficient cause, for stated periods, or in certain circumstances may be effected on the holding of a member of the same family, or on another of applicant's holdings, or in a village or town, or elsewhere within reasonable distance. In certain cases a wife may carry out residence on her husband's holding, or, conversely, a husband may carry out residence on his wife's holding. Each additional conditional purchase or conditional lease is subject to the condition of residence indicated, but the place of residence may be on any block of the series, and the term may be reduced in certain circumstances, by the applicant's previous residence on the series.

The selector must enclose his land, within three years after confirmation, with such a fence as the Land Board may prescribe; or he may substitute improvements in lieu of fencing. In such a case, permanent improvements,

of the value of 6s. per £ of purchase money but not exceeding £384, are required within three years, and these improvements must be brought up to the value of 10s. per £ of purchase money, but not exceeding an aggregate value of £640, within five years from the date of confirmation. In the case of non-residential purchases, the land must be fenced within one year after date of confirmation, and within five years other improvements to the value of £1 per acre must be effected. Fencing may be superseded by other improvements equivalent to 30s. per acre, within five years after confirmation.

Under the Crown Lands Amendment Act, 1908, an original non-residential conditional purchase, with any additional non-residential conditional purchase made in virtue of it, may be converted into an original residential conditional purchase, provided that the ten years' residence commences from the date of application for such conversion. This term of residence is subject to reduction, and all moneys previously paid are credited towards payment of the converted conditional purchase.

A conditional purchase, residential or otherwise, may be converted into a homestead farm under certain conditions.

The following table shows the transactions under each class of conditional purchase during the last ten years:—

Year ended 30th June.	Applications for—						Conditional Purchase Leases—application to convert into C.P. received.		Total.	
	Original Conditional Purchases.		Additional Conditional Purchases.		Non-residential Conditional Purchases.					
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.		acres.		acres.
1907	1,535	200,852	2,122	476,345	52	5,956	14	2,642	3,723	685,795
1908	1,618	229,044	2,108	486,491	113	16,370	11	2,220	3,850	774,125
1909	1,641	285,616	2,767	797,666	121	18,791	12	3,231	4,541	1,105,307
1910	1,206	181,097	1,001	150,074	57	8,196	22	8,357	2,286	350,724
1911	801	116,177	752	98,813	49	6,547	147	43,934	1,749	265,471
1912	584	99,604	626	84,597	48	6,768	122	39,293	1,380	230,265
1913	347	47,427	403	53,274	33	3,143	41	17,904	824	121,748
1914	250	31,543	236	31,525	26	2,233	47	27,649	559	92,955
1915	181	20,794	166	24,357	15	1,024	46	27,453	408	73,628
1916	115	11,770	97	10,387	4	333	79	47,143	295	69,638

Inclusive of conditional purchase leases as shown above, for the year 1915-16, there were in all 1,454 applications, covering an area of 641,650 acres, for conversion into conditional purchase from other forms of tenure.

The following applications for conditional purchases have been made under the various Acts:—

	Applications.	
	No.	acres.
To May 24, 1884—		
Under Crown Lands Act of 1861	136,389	14,982,120
Under Crown Lands Act of 1880	55,084	8,488,020
Total to 31st December, 1884... ..	191,473	23,470,140
Under the Crown Lands Acts of 1884, 1889, 1895, and subsequent amending Acts to year ended 30th June, 1909	89,175	16,281,251
During years ended 30th June, 1910 to 1916	6,997	992,693
Total to 30th June, 1916	287,645	40,744,084

Transactions in respect of conditional purchase applications and deeds issued from 1862 to 30th June, 1916, have been as follows:—

Year.	Conditional Purchase— Applications made.		Conditional Purchase— Applications confirmed.		Conditional Purchases for which Deeds have issued.		Conditional Purchases in existence.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.		acres.
1832-1909	280-648	39,751,391	65,337	11,806,991	99,161	12,848,166	96,961	14,475,553
1910	2,264	312,367	1,984	294,897	7,097	1,079,887	93,567	14,362,462
911	1,602	221,537	1,613	227,520	4,657	632,738	93,408	15,614,036
912	1,258	199,969	1,099	175,044	5,231	671,564	92,208	16,629,008
1913	783	103,844	839	105,167	3,265	406,019	92,183	17,307,305
1914	512	65,506	554	67,534	2,338	322,556	91,935	17,837,702
1915	362	46,175	287	35,249	2,354	304,012	90,904	18,035,210
1916	216	22,495	183	23,552	2,462	307,016	89,670	18,315,095
Total (as at 30th June, 1916)	287,645	40,744,084	71,896	12,735,954	126,565	16,571,958	89,670	18,315,095

In 1908 the Conversion Act was passed, and since 1909 the number of selections have been reduced by forfeitures, cancellations, conversions into homestead selections, &c., and increased by conversions from various other tenures under the Crown Lands Act, so that the land wholly alienated, or in process of alienation, by conditional purchase, on 30th June, 1916, amounted to 34,887,053 acres, contained in 216,235 purchases. Included in the foregoing are 126,565 completed purchases, covering 16,571,958 acres, upon which deeds have now been issued, and the balance represents the number of purchases still in force, but upon which the conditions, payments, &c., have not yet been fulfilled, viz., 89,670 with an area of 18,315,095 acres.

Applications for conversion to mineral conditional purchase may, under the 1910 Act, be annulled or withdrawn, and all moneys, less authorised deductions for cost, refunded with the application.

Improvement Purchases.

Holders of miners' rights or of business licenses on a gold-field, being in authorised occupation by residence of land containing improvements, may purchase such land without competition. Improvements must include a residence or place of business, and be of the value of £8 per acre on town land, and £2 10s. on any other land.

During 1915-16, 148 applications were granted for a total area of 66 acres, the total purchase price being £2708 19s. 1d.

Auction Sales and After-auction Purchases.

Crown lands are submitted to auction sale under two systems. Under the ordinary system the balance of purchase money is payable, without interest, within three months of the day of sale; while, under the deferred payment system, the balance is payable by instalments, with 5 per cent. interest, distributed over a period not exceeding five years; in either case, 25 per cent. of the purchase money must be deposited at the time of sale.

Auction sales are limited by law to 200,000 acres in any one year. Town lands may be sold in blocks not exceeding half an acre, at an upset price of not less than £8 per acre; and suburban lands must not exceed 20 acres in one block, the minimum upset price being £2 10s. per acre. Country lands may be submitted in areas not exceeding 640 acres, the upset price being not less than 15s. per acre. The value of improvements on the land may be added to the upset price.

Town or suburban land or portions of country land of less than 40 acres each, which have passed at auction may be bought, with the Minister's consent, at the upset price; a deposit of 25 per cent. of such upset price is payable at the time of application, the balance being payable on the terms fixed for the auction sale.

Special Non-competitive Sales.

Any unnecessary road which bounds or intersects freehold land may be closed and sold to the freeholder at a price determined by the Land Board, and any unnecessary road which passes through land held under conditional purchase may be closed and added to the area.

Reservations are maintained in many Crown grants of land having water frontage, being usually 100 feet from high-water mark; but the Crown may rescind the reservation, and convey the land to the holder of the adjoining land, at a price to be determined by the Land Board.

The owner in fee-simple of land having frontage to the sea, or to any tidal water or lake, who desires to reclaim and purchase any adjoining land lying below high-water mark, may apply to the Minister for Lands to do so, except in the case of Port Jackson, the control of which is vested in the Sydney Harbour Trust. Reclamations which might interrupt or interfere with navigation are not authorised.

Land encroached upon by buildings erected on granted land, or land situated between granted land and a street or road, which forms, or should form, the way of approach to the granted land, or land to which no way of access is attainable, or land which is insufficient in area for conditional purchase, may be purchased by the owner in fee-simple of the adjoining land, at a price determined by the Board.

Exchange of Land between the Crown and Private Owners.

Before the granting of fixity of tenure in connection with pastoral leases, the lessees had made it a practice to secure portions of their runs by conditional purchases and purchases in fee-simple. The practice was disadvantageous to the public estate, since Crown lands were left in detached blocks severed by lessees' freehold properties, and the lessees realised that it would be convenient to them to gather their freeholds together in one or more consolidated blocks by surrender of the private lands in exchange for Crown lands elsewhere.

Under the provisions of the Crown Lands Consolidation Act, 1913, the Governor, with the consent of the owner, may exchange any Crown lands for any other lands of which a grant in fee simple has been issued.

The Governor may accept in exchange for Crown lands, lands in respect of which a balance of purchase money remains unpaid, if upon payment of such balance the right to a grant in fee simple becomes absolute. In any such case a grant of Crown lands in exchange will not be issued until the balance of purchase money has been duly paid.

Applications received under this head during the year 1915-16 numbered 48, and 92 applications were outstanding on the 30th June, 1915. Thirty-five applications, embracing 14,774½ acres, were granted in 1915-16.

Volunteer Land Orders.

Holders of certificates issued to volunteers who had served under the provisions of the Volunteer Force Regulation Act of 1867 were entitled to a free grant of land. These certificates entitled the holder to 50 acres of such land as was open to conditional purchase, other than lands within

a proclaimed special area. Claims to these grants lapsed unless lodged within three years after the commencement of the Crown Lands (Amendment) Act, 1908, which period terminated on 31st January, 1912.

The total area alienated by volunteer land orders to 30th June, 1911, amounted to 170,650 acres, and this area was increased only by 848 acres as at 30th June, 1912. During the next year there was a further alienation of 500 acres, and during 1913-14 an additional 200 acres were alienated, the total area standing at 172,198 acres.

Homestead Selection and Homestead Grant.

The appropriation of areas for homestead selection was a prominent feature of the Act of 1895, the land chosen for subdivision being good agricultural land. Where suitable lands were situated within easy access of towns, small blocks were set apart, the lands being available after particulars relating to area, capital value, &c., were published in the *Gazette*. The maximum area that might be selected was 1,280 acres, but the selector was limited to a block as granted.

Any person eligible to take up a conditional purchase might apply for a homestead selection; the selector was required to deposit one-half year's rent and one-tenth of the survey fee with his application, and to pay for any improvements already on the land. The applicant must have commenced to reside on the selection within three months, and have erected a dwelling of a minimum value of £20 within eighteen months, after the confirmation of his application. The rent, until the issue of a grant, was $1\frac{1}{2}$ per cent. of the capital value of the block. The condition of residence might be fulfilled by deputy prior to the issue of the grant, but the applicant was required, during this period, to pay rent at the rate of $3\frac{1}{2}$ per cent. of the capital value, and to effect greater improvements. An appraisal of the capital value of the land might be obtained under certain conditions.

Additional land might be acquired out of an area set apart for the purpose to make up an area which, with all other lands held by the applicant other than under lease having less than five years to run unless with a right to purchase the freehold, would not be more than sufficient for the maintenance of the applicant's home in average seasons and circumstances. The additional holding need not adjoin the original holding, but must be situated within a reasonable working distance.

At the expiration of five years after the confirmation of the application a grant of the holding, called a homestead grant, would issue, the tenure being subject to perpetual residence and perpetual rent. After issue of the grant the rent is $2\frac{1}{2}$ per cent. on the improved capital value of the land, which is appraised every fifteen years, and residence may be restricted to seven months in each year. The land may not be transferred during the first five years, and each successive transferee is required to live on the land while he holds it. Tenant-right in improvements is allowed, and the holding may be so protected that it cannot, by any legal procedure, except by levy or sale for taxes, be taken from the owner while he resides on it.

Under the Crown Lands (Amendment) Acts, of the years 1908 and 1912, a homestead selection or grant may be converted into a homestead farm, or a conditional purchase lease, a conditional purchase, or a conditional purchase and conditional lease, provided the area contained in such lease does not exceed three times the area in the conditional purchase.

Lands are not now made available for homestead selections, such tenure having been replaced by that of homestead farm. A large number of persons have, however, selected under this form of holding.

Applications and confirmations in regard to homestead selections and homestead grants issued, from the year 1895 to 30th June, 1916, are as follow:—

Year.	Homestead Selections.				Homestead Grants issued.	
	Applications.		Confirmations.			
	No.	Acres.	No.	Acres.	No.	Acres.
1895 to 1910 ... (Year ended 30th June)	9,059	3,582,134	7,059	2,555,805	4,028	1,628,177
1911 ...	359	98,155	294	76,651	287	123,086
1912 ...	537	119,278	466	94,641	196	88,517
1913 ...	65	19,595	106	30,879	175	55,377
1914 ...	19	4,941	22	5,707	231	39,231
1915 ...	30	16,983	18	7,233	198	59,919
1916 ...	8	3,141	17	7,559	161	48,479
Total ...	10,077	3,844,227	7,982	2,778,475	5,276	2,042,786

After making allowance for conversions to and from other tenures, forfeitures, &c., the number of homestead selections and grants in existence on 30th June, 1916, was 3,694, of an area of 1,317,120 acres.

Homestead Farms.

The new tenures created by the Crown Lands Amendment Act of 1912 were homestead farms, suburban holdings, Crown leases, and irrigation farms. Crown lands set apart for disposal as homestead farms are subdivided into home-maintenance areas, but the land may be made available before survey. Crown Lands available for conditional purchase (unless otherwise notified in the *Gazette*) are also available for homestead farm, and land may be set apart for homestead farms to be acquired only as additional areas.

A person—including an alien—of a minimum age of 16 years, if a male, or 18 years, if a female, may apply for a homestead farm, provided that the applicant does not hold under any tenure—except lease which has less than five years to run, and does not confer right to purchase the freehold—an area of land which added to the area of the homestead farm would substantially exceed a home-maintenance area. In estimating what constitutes a home-maintenance area, the joint area held by husband and wife (unless judicially separated) is taken into account as lands held by one person. An alien becoming the holder of a homestead farm, suburban holding, Crown lease, or irrigation farm, is required to become naturalised within three years. A married woman may apply if possessed of a separate estate. Persons who have previously selected are disqualified in certain circumstances.

The title of a homestead farm is a lease in perpetuity. The annual rent is charged at the rate of 2½ per cent. of the capital value, but for the first five years the holder, in lieu of payment of rent, may expend an equal amount on improvements of a permanent character, the same (except boundary fencing) being in addition to those which are otherwise required as a condition of the lease. The capital value is subject to reappraisal after the first twenty-five years and for each subsequent period of twenty years.

A condition of perpetual residence is attached to every homestead farm, but in special cases residence in a town or village, or anywhere within reasonable working distance, may be allowed. Residence may be permitted on a holding of a member of the same family, or on another of the selector's holdings within reasonable working distance. Suspensions or remissions may be granted for such periods as determined by the Land Board. In

certain cases a wife may carry out residence on her husband's holding, or, conversely, a husband may carry out residence on his wife's holding.

The perpetual lease grant will be issued after the expiration of five years from confirmation of the application, if the holder has complied with all required conditions. The holder of a conditional purchase, or conditional purchase and conditional lease, or homestead selection, or homestead grant, or conditional purchase lease, or settlement purchase under the Closer Settlement Acts, other than a settlement purchase acquired under the Closer Settlement Promotion Act, 1910, may under certain conditions convert such holding into a homestead farm. A homestead farm may be protected against sale for debt in certain circumstances.

Applications received for Homestead Farms and those dealt with, during the last five years are as follow :—

Year ended 30th June.	Applications.				Created by Conversion from other tenures.		Reversal of forfeiture and increased area.		Less—Forfeited and decrease in area.		Homestead Farms in existence at end of year.	
	Received.		Confirmed.									
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.		acres.		acres.		acres.
1912	145	93,254	46	27,815	...	...	...	...	...	...	46	27,815
1913	400	217,186	356	203,365	19	10,041	...	...	...	...	421	241,221
1914	468	284,640	358	221,576	9	7,337	...	...	32	19,635	756	450,499
1915	605	467,873	437	327,098	11	4,550	1	210	50	33,439	1,155	748,918
1916	372	281,685	348	252,166	6	3,848	...	...	57	35,479	1,452	969,453

Suburban Holdings.

The conditions of perpetual rent and perpetual residence are attached to suburban holdings. The area of a suburban holding is determined by the Minister for Lands; the rent—minimum 5s. per annum—is calculated at the rate of 2½ per cent. of the capital value, to be appraised for each period of twenty years. Males under 16 years, females under 18 years, are disqualified from applying. A married woman may, in certain cases, apply, provided her husband has not acquired a suburban holding. A suburban holding may be protected against sale for debt in certain circumstances.

Any suburban Crown lands, or Crown land within population boundaries, or within the Newcastle pasturage reserve, or any other Crown land, may be set apart for disposal by way of suburban holding.

The number of applications for, and confirmations of Suburban Holdings during the past five years, were as under :—

Year ended 30th June.	Applications.		Confirmations.		Suburban Holdings in existence at the end of year.		Annual Rent.
	No.	Area.	No.	Area.	No.	Area.	
		acres.		acres.		acres.	£
1912	48	1,964	21	1,085	21	1,085	136
1913	548	12,704	373	8,730	388	9,731	1,146
1914	762	15,885	570	13,415	902	22,114	2,473
1915	563	10,499	477	9,299	1,311	30,717	3,495
1916	504	7,343	400	6,775	1,535	34,110	4,043

Week-end Leases and Leases of Town Lands.

Under the Crown Lands Amendment Act, 1916, which came into force on 23rd June, 1916, week-end leases may be obtained, and leases of town lands

may be offered at auction or by tender. Both these leases are in perpetuity and neither carries any condition of residence.

There were no transactions under either class of lease to 30th June, 1916.

Week-end Leases.

This tenure created by the Crown Lands Amendment Act, 1916, is a lease in perpetuity, and is subject to payment of rent at the rate of $2\frac{1}{2}$ per cent. of the capital value; to the effecting of substantial improvements worth £1 per acre within five years from confirmation, and to the performance of such special conditions as may be notified. Residence is not necessary. The minimum rent is £1. Anyone, not a female not judicially separated, nor under 21 years, may apply.

Persons who already hold land within areas defined in notification setting apart the land for week-end leases, are in special circumstances disqualified.

Transfers may be made at any time with the Minister's consent, but must be to a qualified person, except in cases of devolution under a will or intestacy. The consideration for a transfer must not exceed the capital value of the improvements on the land.

Leases of Town Lands.

Crown lands within the boundaries of any town may be leased by public auction. The lease is perpetual, and the area included must not exceed half an acre. The amount bid at auction or offered by tender (not being less than the upset value) is the capital value on which the annual rent at the rate of $2\frac{1}{2}$ per cent. is based for the first period of twenty years. The capital value for each subsequent twenty years' period is determined by the Land Board.

The lease may contain such covenants and provisions as may be gazetted prior to sale or tender. Residence is not necessary.

No person is allowed to hold more than one lease, unless with the permission of the Minister on recommendation by the Land Board.

Land for Returned Soldiers.

Under the Returned Soldiers' Settlement Act, 1916, special provision is made for the settlement of returned soldiers on Crown lands or on lands acquired under the Closer Settlement Acts. Under the first-mentioned Act land may be set apart for disposal to returned soldiers only, and the Minister may assist settlers thereunder with respect to clearing, fencing and general improvements of the land, erection of building, purchase of implements, stock, and other things necessary to satisfactorily occupy and develop the land. There were no operations to 30th June, 1916.

Land for Soldiers serving Abroad.

Facilities are provided for acquiring lands under the Crown Lands Acts by soldiers absent at the war. In such cases application and declaration may be made in the name, and on behalf of the absentee, by a person duly appointed and authorised under power of attorney.

Irrigation Farms.

The disposal of lands within duly constituted irrigation areas is regulated by the Crown Lands Amendment Act, 1912, and the Irrigation Act, 1912. A special land board, with the powers and duties of a local land board, may be appointed to administer the Crown Land Acts within an irrigation area; the lands are classified as town, irrigable, and dry or non-irrigable lands. A person (except a married woman not separated from her husband by judicial decree) 16 years or over, if a male, or 18 years or over, if a female, or two or more such persons, may apply for an irrigation farm or block. An alien is not barred, but he must become naturalised within three

years under penalty of forfeiture. The title is perpetual lease, subject to perpetual payment of rent and performance of residence. The rent is at the rate of $2\frac{1}{2}$ per cent. of the capital value—minimum for town land blocks, £1 per annum. At the expiration of five years after confirmation of the application a grant of the farm or block will be issued to the holder, provided that the required conditions have been observed. The holding may be protected against sale for debt in certain circumstances.

In respect of town land blocks, the conditions of residence may be waived or suspended by the Commissioners for Water Conservation and Irrigation; no person may hold more than three adjoining blocks for residence, or four adjoining blocks for business purposes.

ALIENATION.

From the early days of settlement until the year 1861 the Crown disposed of land, under prescribed conditions, by grants and by sales, so alienating, by the end of 1861, an aggregate area of 7,146,579 acres, made up as follows:—

	acres.
1. By grants, and sales by private tender to close of 1831	3,906,327
2. " " in virtue of promises of early Governors made prior to 1831, from 1832-40 inclusive	171,071
3. " sales at auction, at 5s., 7s. 6d., and 10s. per acre, from 1832-38 inclusive	1,450,508
4. " " " " 12s. and upwards per acre, at Governor's discretion, from 1839-41 inclusive	371,447
5. " " " " 20s. per acre, from 1842-46 inclusive	20,250
6. " " " and in respect of pre-emptive rights, from 1847-61 inclusive	1,219,375
7. " grants for public purposes, grants in virtue of promise of Governor made prior to the year 1831, and grants in exchange for lands resumed from 1841-61 inclusive	7,601
Total area alienated on 31st December, 1861	7,146,579

The figures relating to land alienation under the legislation of 1861, and to its subsequent amendments, show that up to 30th June, 1916, 14,916,899 acres had been sold by auction and other forms of sale.

The total area alienated by volunteer land orders to 30th June, 1916, amounted to 172,198 acres. Free grants ceased as from 31st January, 1912.

From 1862 to 30th June, 1916, the Crown dedicated 238,561 acres for public and religious purposes, the dedications during the last year covering 2,425 acres.

The area and the purposes for which land was dedicated during 1915-16, were as follows:—

Area.			Area.		
	a.	r. p.		a.	r. p.
Fire Brigade Stations... ..	3	0 23 $\frac{1}{4}$	Reserve for Travelling	22	2 0
Gas Works (addition)... ..	0	0 38	Stock and Camping	0	2 0
General Cemetery	39	0 4	Shire Council Chambers	35	2 1
Hospital Site	13	0 39	Show Ground	1	0 0
Literary Institutes	1	2 16 $\frac{3}{4}$	Trades School site	1,933	1 28 $\frac{9}{16}$
Permanent Common (addition)	70	0 0	Water Supply	0	0 14 $\frac{1}{2}$
Preservation of Graves	2	0 0	Water Supply and Sewerage... ..	0	0 14 $\frac{1}{2}$
Public Recreation	64	1 25 $\frac{1}{2}$			
Public Recreation and Show Ground	12	0 32	Total	2,425	2 14 $\frac{1}{16}$
Public Roads	113	0 30			
Public School	108	2 2 $\frac{1}{2}$			

The foregoing areas are inclusive of various tenures within the Federal Capital Territory aggregating approximately 173,451 acres and will be subject to modification when the territorial boundaries shall have been surveyed.

The operations of the various Orders, Regulations, and Acts of Council and of Parliament for the disposal of the public lands, since the foundation of New South Wales, have produced the following results:—

	acres.
Area granted and sold by private tender and public auction at prices ranging from 5s. to 20s. per acre, prior to the year 1862	7,146,579
Area sold by auction and other forms of sale, 1862 to 30th June, 1916, inclusive	14,916,899
Area sold under system of conditional purchase for which deeds issued, 1862 to 30th June, 1916, inclusive	16,571,958
Area granted under Volunteer Land Regulations of 1867	172,198
Area dedicated for public and religious purposes, less resumptions, 1862 to 30th June, 1916... ..	238,561
Homestead selections and grants existing on 30th June, 1916	1,317,120
Homestead farms	969,453
Suburban holdings	34,110
Lands (acquired and Crown) alienated for Closer Settlement to 30th June, 1916	1,094,475
	<hr/> 42,461,353

Less—	acres.
Alienated and dedicated lands within Federal Capital Territory..	173,451
Area acquired for Closer Settlement, to 30th June, 1916	1,115,519
	<hr/> 1,288,970

Total area alienated, 30th June, 1916 41,172,383

Area in process of alienation under system of conditional purchase standing good on 30th June, 1916 (exclusive of Federal Capital Territory) ... 18,315,095

Total area alienated, and in process of alienation on 30th June, 1916 (exclusive of Federal Capital Territory) 59,487,478

It has been found impracticable to separate the area alienated by grant from that sold by private tender, as the records of early years are incomplete upon this point.

The holder of a settlement purchase under the Closer Settlement Acts, other than those acquired under the Closer Settlement Promotion Act, 1910, may, under certain conditions convert such holding into a homestead farm. See pages 176 and 195.

The progress of alienation and of conditional settlement by purchase and lease at various periods from 1861 to 30th June, 1916, is shown in the following table:—

Year.	Area Alienated to end of year.	Area Conditionally Purchased, standing good at end of year.	Total area alienated and in course of alienation.	Area under Leases with right to convert. (See page 186.)	Total Area placed beyond State control.
	acres.	acres.	acres.	acres.	acres.
1861	7,146,579	.....	7,146,579	.....	7,146,579
1871	8,630,604	2,280,000	10,910,604	.....	10,910,604
1881	22,406,746	12,886,879	35,293,625	.....	35,293,625
1891	23,775,410	19,793,321	43,568,731	11,234,131	54,802,862
1901	27,934,627	20,044,703	47,979,330	13,980,942	61,960,272
1906	33,470,512	16,499,823	49,970,335	15,807,249	65,777,584
1911	38,501,167	15,614,036	54,115,203	25,352,311	79,467,514
1912	39,116,872	16,529,008	55,645,880	25,244,590	80,890,470
1913	39,710,671	17,307,305	57,017,976	24,698,103	81,716,079
1914	40,173,511	17,837,702	58,011,213	23,609,707	81,620,920
1915	40,744,239	18,035,210	58,779,449	23,593,570	82,373,019
1916	41,172,383	18,315,095	59,487,478	22,044,506	81,531,984

CONVERSION OF TENURES.

In reference to the various methods of acquisition and occupation, details have been given of provisions of the Crown Lands Amendment Acts passed in 1908 and 1912, which confer on certain holders of Crown lands the right of conversion into more desirable tenures. The following statement shows the applications for conversion, and those confirmed, during the last three years:—

Class of Holding.	Applications.					
	1913-14.		1914-15.		1915-16.	
	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.
Conditional Leases	1,050	576,400	787	326,717	997	484,079
Conditional Purchase Leases ...	47	27,649	46	27,453	79	47,143
Homestead Selections or Grants ...	179	73,623	81	33,962	120	57,879
Settlement Leases	99	347,889	50	179,798	68	246,662
Non-residential Conditional Purchases	8	966	7	639	2	86
Special Leases	265	34,435	234	30,984	276	34,002
Settlement Purchases	6	1,980	7	3,889	6	3,699
Church and School Lands Leases ...	...	...	1	5	...	...
Improvement Leases	5	3,200	1	640	2	1,280
Conditional Purchases	4	3,352	...	...	1	1,736
Scrub Leases	1	640	...	...	1	640
Total	1,664	1,070,134	1,214	604,087	1,552	877,206

Class of Holding.	Applications confirmed.					
	1913-14.		1914-15.		1915-16.	
	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.
Conditional Leases	1,272	584,234	778	320,853	880	421,927
Conditional Purchase Leases ...	41	24,204	46	26,382	64	36,828
Special Conditional Purchase Leases ...	...	...	...	...	2	80
Homestead Selections or Grants ...	182	78,846	90	39,044	105	57,653
Settlement Leases	88	319,441	60	210,814	55	183,101
Non-residential Conditional Purchases	6	604	9	999	2	86
Special Leases	206	21,107	186	23,431	177	20,776
Settlement Purchases	6	4,001	10	4,446	6	3,848
Improvement Leases ... ..	...	...	2	638	3	2,560
Conditional Purchases*	5	2,558	...	...	...	...
Conditional Leases*	4	3,560	...	...	...	...
Total	1,810	1,038,555	1,181	626,607	1,294	726,859

* Conversions under Section 194, Crown Lands Consolidation Act, 1913.

The new tenures created by the foregoing applications during the past three years were as follows:—

New Tenures.	1913-14.		1914-15.		1915-16.	
	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.
Conditional Purchase	1,689	730,639	1,095	420,933	1,216	547,347
Conditional Purchase and Associated Conditional Lease* ...	87	294,773	54	196,325	46	165,375
Conditional Lease	8	1,187	6	1,124	10	4,854
Conditional Purchase Lease	2	180	6	1,141	3	238
Homestead Selections	12	3,875	8	2,503	11	4,597
Settlement Lease	3	564	1	31	2	600
Homestead Farm	9	7,337	11	4,550	6	3,848
Total	1,810	1,038,555	1,181	626,607	1,294	726,859

* Included in the above figures are 87 Associated Conditional Leases of 204,349 acres in 1913-14; 54 of 129,088 acres in 1914-15; and 46, embracing 115,937 acres in 1915-16. Non-residential Conditional Purchases converted into Conditional Purchase are also included.

OCCUPATION OF PASTORAL LANDS—LIMITED TENURE.

The pastoral lands of New South Wales have been occupied under various systems of tenure. In the early days land was held for grazing by virtue of tickets of occupation, the issue of which was stopped in 1827, when holders of such lands were required to pay a quit-rent of 20s. per 100 acres per annum, and to vacate the land at six months' notice. The necessity for depasturing increasing stocks induced settlers to extend their occupation to Crown lands without any right except that of first discovery, until the Legislature, in 1833, passed an Act protecting Crown lands from intrusion and trespass, Commissioners being appointed to safeguard the interests of the State.

The discovery of new country soon attracted pioneer squatters beyond the limits of settlement as proclaimed on 14th October, 1829; and regulations, involving liability to severe penalties, were issued on 29th July, 1836, with the view of restraining unauthorised occupation. In 1839 the regulations were reinforced by the passing of an Act levying upon stock a yearly assessment at the following rates:— $\frac{1}{2}$ d. for every sheep, $1\frac{1}{2}$ d. per head of cattle, and 3d. for every horse.

Under an Act passed in 1847 a new system was introduced relating to pastoral lands of which previously the tenure had been annual, the fee being based on the area of land occupied by the squatter. Under the new plan, fixity of tenure of lease was substituted, the license fee being calculated upon the stock-carrying capacity of the run; but the term of the pastoral leases varied, being fixed, in the unsettled districts, at fourteen years; in the intermediate division, at eight years; while in the settled districts the yearly tenure was retained. The licensing fee under the altered conditions was charged at the rate of £10 for 4,000 sheep, or a proportional number of cattle—which was the minimum at which the stock-carrying capacity of a run could be assessed—and £2 10s. for every additional 1,000 sheep, or proportionate number of cattle. In settled districts lands were let for pastoral purposes only, in sections of not less than 1 square mile in area, the annual rental for each section being fixed at 10s.

The holders of alienated lands were permitted to depasture their stock upon Crown lands adjoining their holdings, free of charge; this permission, however, constituted only a commonage right.

The Occupation Act of 1861 created a new system, limiting the tenure of pastoral leases to five years in unsettled and intermediate or second-class settled districts, and leaving the whole of the pastoral leases open to the operations of the free selectors. The evils resulting from this system led Parliament to adopt, in 1884, 1889, 1895, and at intervals since 1903, the measures, the provisions of which are described below.

CROWN LANDS ACT OF 1861.

The conditions of colonisation altered greatly under the powerful attraction of the gold-fields; and, to meet the wants of a class of immigrants of a different type from those contemplated by former enactments, the question of land settlement had to be discussed in an entirely new spirit, the result being the passing of the Crown Lands Act of 1861, introduced by Sir John Robertson. The conditions of settlement had rendered it difficult previously for men of small means to establish themselves with a fair chance of success, and the new measure aimed at facilitating the settlement of an industrial agricultural population side by side with the pastoral tenants, by introducing a principle entirely new to the land legislation of the State, namely, that of free selection, in limited areas, *before survey*. The Act provided for the conditional purchase of areas from 40 to 320 acres in extent at £1 per acre—25 per cent. of the purchase money to be deposited with the application. At the expiration of three years the purchaser was required to pay the balance, and to furnish a certificate showing that he had resided on the land, and made the necessary improvements. Provision was made to defer payment of the balance of the purchase money on receipt of 5 per cent. interest.

The Amending Act of 1875, under which annual instalments were payable, gave to any conditional purchaser of land the option of availing himself of the change in the method of payment. The system of unconditional sales was, however, continued under the Act of 1861; and during the twenty-three years the Act was in operation 23,470,140 acres were sold conditionally, and 15,572,001 acres by auction, by improvement purchase, by virtue of pre-emptive right, or otherwise without conditions, the total area alienated being 39,042,141 acres. In many cases the land selected, or purchased, reverted to the State; so that the absolute area alienated or in process of sale when the Act of 1884 came into force amounted to only 32,819,023 acres, besides 7,146,579 acres alienated prior to 1861.

THE CROWN LANDS ACTS OF 1884 AND 1889.

After many amendments the Act of 1861 was superseded by that of 1884, with the supplementary enactment of 1889, which measures maintained the principle of free selection before survey, but with one essential difference. Under the original Act the whole area of the Crown lands was thrown open to free selection, including the lands held under pastoral lease. The Acts of 1884 and 1889 were devised to give fixity of tenure to the pastoral lessee and to obtain a larger rental from the public lands, at the same time restricting the area sold unconditionally.

Existing holders of pastoral leases under the earlier Act were required to surrender one-half of their leases, which were resumed by the Crown for subsequent alienation, leasehold, or reserve; the other half in each case was leased to the pastoralist under fixity of tenure for a term of years. On 31st December, 1884, when this division was made, there were 4,313 leased runs, yielding an annual rental of £268,500, and forming

about 1,600 "stations," estimated to contain the bulk of the unalienated public estate, after allowing for reserves, &c. An increase in the revenue from pastoral occupation, one of the principal objects of the Act of 1884, has been realised, as evidenced by the total revenue received from the pastoral occupation of Crown lands, which increased from £329,356 in the year 1884 to £506,619 in the financial year 1915-16.

THE CROWN LANDS ACTS OF 1895 AND 1903 TO 1912.

The Act of 1861 failed conspicuously in encouraging *bond fide* settlement; and the legislation of 1884 and 1889 also was ineffective, since the accumulation of land in large estates continued, while settlement proceeded very slowly. Expert opinion pointed strongly to the necessity of introducing entirely new principles, and this was done in the Crown Lands Acts of 1895 and 1903, which, while placing land within easy reach of all, supplied the means of securing permanent settlers through the new system of tenure—homestead selections and settlement leases. These tenures have been superseded by those of homestead farms and Crown leases which were created by the Act of 1912.

In 1913 an Act, entitled the "Crown Lands Consolidation Act, 1913," was passed, which consolidated all existing original as well as amended and unpealed portions of the various Acts dealing with the alienation, occupation, and management of Crown Lands.

OCCUPATION.

Annual Leases.

Unoccupied lands not reserved from lease may be obtained for pastoral purposes as annual leases, on application, or they may be offered by auction or tender. They may be obtained also by "after auction" tender, or "after tender" tender. No conditions of residence or improvement are attached to annual leases, which convey no security of tenure, the land being alienable by conditional purchase, auction sale, &c. The area in any one lease is restricted to 1,920 acres. In certain circumstances an annual lease may be converted into a lease under improvement conditions for a term not exceeding ten years.

The number of annual leases current at 30th June, 1916, was 6,767, embracing 2,991,573 acres, with an annual rent of £22,123.

Conditional Purchase Leases.

This form of tenure was created in 1905; but, as in the case of homestead selections and settlement leases, it is obsolete for the purposes of selection, as lands are not now made available under it. There are, however, considerable numbers of conditional purchase leases still standing. Areas set apart for disposal by way of conditional purchase lease were subdivided as the Minister for Lands determined. The lease was for forty years, at a rental of 2½ per cent. per annum on the capital value. The value of existing improvements was appraised by the Land Board, and special conditions were imposed regarding improvements, cultivation, preservation, or planting of timber, &c.

Any male above the age of 16 years, and any female above 18 years, who was not disqualified under the provisions of the Land Act, might apply for a conditional purchase lease. A female applicant must have been unmarried, or widowed, or living apart from her husband under a decree of judicial separation.

Residence on the lease was continuous for ten years, and must have commenced within twelve months from the date of confirmation, but the commencement of residence might be deferred for five years.

The holder may convert the area into a conditional purchase by payment of a deposit of 5 per cent. on the capital value of the land, provided that the proper conditions have been observed, and subject to all the unperformed conditions of the lease, except payment of rent. The balance of purchase money is payable by equal annual instalments at the rate of 5 per cent. of the price, consisting of principal and interest at the rate of $2\frac{1}{2}$ per cent. on the unpaid balance, the first instalment becoming due twelve months after the date of application for conversion. In accordance with the provisions of the Crown Lands Amendment Act, of year 1912, conditional purchase leases might be converted also into homestead farms.

A holder of a conditional purchase lease may acquire additional conditional purchase leases, but in no case may the total area of the lands held by him under any tenure, except under lease having less than five years to run without right of purchase, exceed a home-maintenance area.

No applications were received or confirmed for conditional purchase leases during the year 1915-16. Twelve special conditional purchase leases were confirmed, for an area of 558 acres. Three leases of 238 acres were converted from other tenures. The increase in area amounted to 44 acres. Reversals of forfeiture numbered 5 leases of 4,795 acres. The leases forfeited during the year were 10 of 3,186 acres, while 66 leases of 36,908 acres were converted into conditional purchase, and there was a decrease of 1 acre in area. The leases holding good at 30th June, 1916, numbered 764 with an area of 515,312 acres, the rent amounting to £18,928.

Special Conditional Purchase Leases.

Under the Crown Lands Act, 1908, land might be set apart for disposal as special conditional purchase lease, provided that for six months the land has been available for some class of residential holding. The areas must be not less than 20, nor more than 320 acres. There were no conditions of residence, but substantial improvements of value of £1 per acre, or any lesser value not being less than 10s. per acre, must be completed within three years. Although no lands are now set apart for special conditional purchase lease, there are areas still available for application in certain districts.

Fifteen applications for an area of 1,243 acres were received during 1915-16. Twelve applications were confirmed for 558 acres, as above.

Conditional Leases.

A conditional lease may be obtained by any holder of a conditional purchase (other than non-residential), or a conditional purchase within a special area in the Eastern Division. Lands available for conditional purchase are also available for conditional lease, with the exception of lands in the Western Division, or within a special area or a reserve.

Applications must be accompanied by a provisional rent of 2d. per acre and a survey fee, unless as otherwise provided. The area which an applicant may obtain as conditional purchases and conditional leases is restricted to 1,280 acres in the Eastern Division, and 2,560 acres in the Central Division; but the Land Board may specifically permit larger areas. The area that may be leased is limited to three times the area of the conditional purchase in virtue of which it is obtained. The lease is for a period of forty years, at a rent determined by the Land Board, payable yearly in advance. The conditions of fencing, or substitution of improvements in lieu of fencing, which attach to a residential conditional purchase, apply equally to a conditional lease, and residence is required as in the case of an additional conditional purchase.

After confirmation, a conditional lease may be converted, either wholly or in part not less than 40 acres, into a conditional purchase.

Applications for 152 leases, of an area of 36,445 acres, were lodged during 1915-16, and 166, including applications outstanding from the previous year, representing 57,048 acres, were confirmed.

Eight hundred and eighty conditional leases, embracing 421,927 acres, were converted into conditional purchase and conditional leases, containing an area of 120,791, were created by conversion. Leases in existence at 30th June, 1916, numbered (gazetted) 28,932, embracing 15,663,382 acres, rent £194,038, and not gazetted, (under provisional rent) 100 leases of 33,322 acres, and rent £278.

Leases of Scrub and Inferior Lands.

Scrub leases may be obtained on application, by auction or by tender, after-auction tender, or after tender tender, but inferior-lands leases may be acquired only by auction or tender, after-auction tender, or after tender tender. There is no limitation as to area, and in the case of a scrub lease obtained by application the rent is appraised by the Local Land Board. The initial rent of an inferior-lands lease prevails throughout the whole term; but the terms of a scrub lease may be divided into periods, the rent for each period being determined by reappraisalment. The term of each class of lease may not exceed twenty-eight years. The holder of a scrub lease must take such steps as the Land Board may direct for the purpose of destroying the scrub, and keep the land clear afterwards. During the last year of any of the leases application may be made for a homestead grant of 640 acres.

There were in existence at 30th June, 1916, 249 scrub leases with an area of 1,354,648 acres, and rental of £7,032, and 32 inferior land leases, embracing 75,451 acres. Rent, £287.

Occupation Licenses.

Occupation licenses may be (a) preferential occupation licenses, consisting of the area within the expired pastoral leases, and (b) ordinary occupation licenses, which relate to the parts of the holdings formerly known as resumed areas. They may be acquired by auction or tender, after-auction tender, or after-tender tender. Occupation licenses extend from January to December, being renewable annually at a rent determined by the Land Board.

The area under occupation license (Crown Lands Act) was represented at 30th June, 1916, by ordinary 733 of 5,400,305 acres, rental £9,608, and preferential 346 leases, representing 1,204,848 acres. Rent, £6,757.

Pastoral Leases.

Under the Crown Lands Amendment Act of 1903, the registered holder of any pastoral lease, preferential occupation license, or occupation license, could apply for a lease, for not more than twenty-eight years, of an area not exceeding one-third of the total area of the land comprised within the lease or license, subject to such rent, conditions of improvement, and withdrawal for settlement as may be determined. These are known as 18th Section Leases, having been granted under Section 18, Act of 1903, which has now been repealed.

At 30th June, 1916, these leases numbered 9 with an area of 1,136,475 acres, and rental of £734.

Special Leases.

Special leases are issued chiefly to meet cases where land is required for some industrial or business purpose, and may be obtained by application, auction, or otherwise, the term of the lease not to exceed twenty-eight years. The conditions attached are suitable to the circumstances of each case, being, like the rent, determined by the Minister. The Crown Lands Act, passed in 1908, provides for the conversion of special leases, for certain purposes, and of agricultural or pastoral Church and School lands leases,

into original or additional conditional purchase leases; or original or additional conditional purchases; or original or additional homestead selections; or original or additional settlement leases; or conditional leases; or homestead farm.

The number of special leases granted during 1915-16 numbered 520 of 38,496 acres, and 177 leases representing 20,776 acres were converted into other tenures. After allowance has been made for leases which were terminated, were forfeited, surrendered, &c., and those which expired by effluxion of time, 6,487 leases (exclusive of leases within the Commonwealth territory) with an area of 647,916 acres and rental of £36,600, were current at 30th June, 1916.

Residential Leases.

The holder of a "miner's right" within a gold or mineral field may obtain a residential lease. A provisional rent of 1s. per acre is charged, the maximum area is 20 acres, and the longest term of the lease twenty-eight years; the annual rent is appraised by the Land Board. The principal conditions of the lease are residence during its currency, and the erection within twelve months of necessary buildings and fences. Tenant-right in improvements is conferred upon the lessee. The holder of any residential lease may apply after the first five years of his lease to purchase the land.

Nine hundred and thirty-one leases embracing 13,435 acres and a rental of £1,644 were current at 30th June, 1916.

Improvement Leases.

Improvement leases may consist of any scrub or inferior land not suitable for settlement in the Eastern or Central Divisions, and are obtained only by auction or tender, after-auction tender, or after tender tender. The rent is payable annually, and the lease is for a period of twenty-eight years, with an area not exceeding 20,480 acres. Upon the expiration of the lease the last holder will have tenant-right in improvements. During the last year of the lease the lessee may apply for a homestead grant of 640 acres, including the area on which his dwelling-house is erected. Should the Advisory Board, constituted under the Closer Settlement Act, 1907, report that land comprised in an improvement lease or scrub lease is suitable for closer settlement, the Minister may resume the lease, the lessee being compensated.

Four leases, comprising 9,940 acres, were let by tender at a total rental of £56 16s. 3d., and 4 leases of 2,713 acres and rent £27 10s. 3d. were, under improvement conditions, granted. Three improvement leases were converted into homestead selections. After allowance has been made for leases, which were forfeited, voided, surrendered, expired and resumed, there remained current at 30th June, 1916, 1,026 leases with an area of 4,902,058 acres and rental £35,954.

Settlement Leases.

Under this tenure, which has now been superseded by that of Crown lease, farms gazetted as available for settlement lease were obtainable on application, accompanied by a deposit consisting of six months' rent and the full amount of survey fee. The maximum area of agricultural land which might be taken up was 1,280 acres; but where the settler combines agriculture with grazing, the farms might contain any area not exceeding 10,240 acres. These areas, however, could be exceeded by means of additional holdings, which need not adjoin the original holding, but had to be situated within a reasonable working distance thereof.

The lease was issued for a term of forty years, divided into four periods. The annual rent for the first period was that notified before the land was made available for lease; but the lessee might require that the rent be determined

by the Land Board, and the annual rent for each succeeding period might be separately determined in like manner. Residence was compulsory throughout the whole term; and the land had to be fenced within the first five years, and noxious weeds and animals on the land destroyed within eleven years. The lessee may apply at any time after the first five years of the lease for an area not exceeding 1,280 acres, on which his house is situated, as a homestead grant.

Under the Crown Lands Act of 1908, the holder of a settlement lease may convert such lease into a conditional purchase, or into a conditional purchase and conditional lease under certain provisions, but in no case may the unimproved value of the land to be converted into conditional purchase exceed £3,000.

During 1915-16, two applications relating to 477 acres were lodged and confirmation was granted for 4 leases of 2,091 acres with a rental of £30. Two settlement leases for 600 acres were created by conversion, and 55 leases for an area of 183,101 acres were converted into other tenures. After making allowance for leases forfeited, &c., and subdivision, there remained current at 30th June, 1916, 1,750 leases, comprising 5,167,060 acres, and rent, £62,466.

Snow Leases.

Vacant Crown lands which for a portion of each year are usually covered with snow, and are thereby unfit for continuous use or occupation, may be leased by auction or tender, by after-auction tender, or by after-tender tender as snow leases. Not more than one snow lease may be held by the same person. The maximum area is 10,240 acres. The term of the lease is seven years, but may be extended by three years.

At 30th June, 1916, there were current two leases, embracing 6,069 acres; and rent, £138.

Crown Leases.

Crown leases were constituted under the Crown Lands Amendment Act, 1912, and lands are specially set apart by notification in the *Gazette* as available for Crown lease. Crown lands available for conditional purchase (unless otherwise specified in the *Gazette*) are also available for Crown lease. Land may be set apart for Crown lease to be acquired only as additional areas. The term of lease is forty-five years, and the annual rent $1\frac{1}{4}$ per cent. of the capital value, as determined every fifteen years. The rent payable for the first year may be remitted if, in addition to the improvements required as a condition of the lease, an equal sum be spent by the lessee in improving the land. The lessee is required to reside on the land during the whole term of lease, and during the last five years, unless debarred by notification setting the land apart, may apply to convert into a homestead farm so much of the land as will not exceed a home-maintenance area. The lease may be protected against sale for debt in certain circumstances. Any person qualified to apply for a homestead farm may apply for a Crown lease.

Operations under this class of lease during the past five years were as follow :—

Year ended 30th June.	Application.		Confirmed.		Leases current at 30th June.		
	No.	Area.	No.	Area.	No.	Area.	Rent.
		acres.		acres.		acres.	£
1912	116	311,360	54	168,392	54	168,392	1,588
1913	477	554,424	278	390,096	330	555,864	5,621
1914	836	697,425	493	356,727	805	880,785	9,259
1915	628	643,189	598	487,155	1,600	1,563,684	16,114
1916	571	864,158	501	780,373	1,760	1,896,765	21,561

Church and School Land Leases.

Certain grants were made under special enactments, and instructions from the Imperial authorities to Sir Thomas Brisbane, then Governor (1821-25), directed him to reserve one-seventh of the Crown lands in each county for Church and School purposes.

The aggregate area of such reserves up to the year 1832, shown by survey to be actually 454,050 acres, did not attain the proportional area specified in the instructions. These lands were administered by the Clergy and School Land Corporation until its abolition by Order of Council on the 4th February, 1833, when the lands reverted to the Crown, and an agent was appointed to determine the claims of purchasers, to whom deeds of grant were made, and confirmed by a subsequent Act of Council, dated the 5th August, 1834.

Of the reserves mentioned above, 171,746 acres were alienated up to the year 1880, when, by the Church and School Lands Dedication Act of that year, the balance of 282,304 acres came under the control of the State Legislature to be administered for the purpose of Public Instruction. Subsequently the Church and School Lands Act, 1897, revested all these lands in the Crown, free from any trust or condition, but subject to the provisions of the Crown Lands Act of 1884 and its subsequent amending Acts, thus determining the land as Crown land. Until a notification classifying any area of Church and School lands has been published in accordance with the Crown Lands Act, such area may be dealt with only by reservation, dedication, license, or held under special or annual lease.

The total area of Church and School lands held under lease at 30th June, 1916, in the Eastern Division was 4,079 acres, at a rental of £397 per annum, the subdivisions being as follows :—

	No.	Area. acres.	Rent. £
Pastoral	5	3,980	47
Agricultural	15	89	21
Ninety-nine Year	38	10	329
Total	58	4,079	397

In addition to the above, there was one water race, aggregating about 10 miles, with a rental of £3.

Other leases in existence at 30th June, 1916, were as follow :—

Leases to outgoing pastoral lessees, 137, with an area of 857,313 acres, and rental £7,914.

Homestead leases in the Western Division not brought under the provisions of the Western Lands Act were forty-three, containing an area of 351,374 acres, and rent £614.

Artesian well leases in the Western Division numbered seven for an area of 71,680 acres ; rent, £144.

There was also one block-holder's lease, 1 acre, and rent £6 ; and 137 prickly-pear leases, embracing an area of 47,316 acres, with a rental of £644. Permissive occupancies in existence at the same date were 3,017, for an area of 1,041,890 acres, and rental £12,378.

In addition to the foregoing leases, there were at 30th June, 1916, exclusive of leases to mine on private lands, 205,568 acres, approximately, held under mineral and auriferous leases. Permits to mine under roads and reserves covered an area of 2,364 acres.

WESTERN DIVISION.

The administration of the Western Division under the Western Lands Acts, 1901 and 1905, is vested in three Commissioners, constituting "The

Western Lands Board of New South Wales," who, sitting in open Court, also exercise all the powers conferred upon Local Land Boards by the Crown Lands Acts.

The registered holder of a homestead selection or grant, pastoral, homestead, settlement, residential, special, artesian well, improvement, scrub, or inferior lease or occupation license, of land in the Western Division, may apply to bring his lease or license under the provisions of the "Western Lands Acts of 1901 and 1905"; in cases where application has not been made, such lease or license is treated as if the Acts had not been passed.

All leases issued or brought under the provisions of the "Western Lands Acts of 1901 and 1905," except special leases, expire on 30th June, 1943. In cases where a withdrawal is made for the purpose of sale by auction or to provide small holdings, the lease of the remainder may, as compensation, be extended for a term not exceeding six years.

Holdings under the Western Lands Acts as at 30th June, 1916, were classified as follows:—

AREA LEASED AT 30TH JUNE, 1916.

The area leased to pastoral tenants and others at the end of June, 1916, amounted to 117,870,422 acres (including leases to miners under the Mining Act), and was subdivided as follows :—

Type of Lease.	Area, acres.	Type of Lease.	Area, acres.
Pastoral	1,136,475	Snow Land	6,069
To outgoing Pastoral Lessees	857,313	Special	647,916
Occupation License	6,605,153	Inferior Land	75,451
Conditional	15,696,704	Artesian Well... .. .	71,680
Conditional Purchase... .. .	515,312	Western Lands	73,780,218
Homestead	351,374	Permissive Occupancy	1,041,890
Annual	2,991,573	Prickly Pear	47,316
Settlement	5,167,060	Mining Act	207,932
Improvement	4,902,058	Other	17,513
Scrub	1,854,648		
Crown	1,896,765	Total	117,870,422

The total available area of the State, exclusive of 576,000 acres ceded to the Commonwealth Government as Federal Capital Territory, is 198,058,880 acres. Deducting the area alienated, and in process of alienation, 59,487,478 acres, and the area leased, 117,870,422 acres, making a total of 177,357,900 acres, there remained a balance of 20,700,980 acres, representing the area of country neither alienated nor leased, and including roads, reserves for public purposes, travelling stock routes and water.

The following statement shows the tenure under which the areas leased with right or provision to convert into freehold, under the Crown Lands (Amendment) Act of 1908, are held :—

	acres.
Conditional Leases	15,696,704
Conditional Purchase Leases	515,312
Settlement Leases	5,167,060
Special Leases	647,916
Residential Leases on Mineral Fields... .. .	13,435
Church and School Land Leases	4,079
Total	22,044,506

The areas under long contracts of lease, in some cases with right of renewal, are given below :—

	acres.
Crown Leases	1,896,765
Pastoral Leases	1,136,475
Leases to outgoing Pastoral Lessees	857,313
Homestead Leases	351,374
Scrub Leases and Inferior Land Leases	1,930,099
Artesian Well Leases	71,680
Snow-land Leases	6,069
Improvement Leases	4,902,058
Western Land Leases	65,838,186
Other Leases	255,249
Total	77,245,268

AREA AVAILABLE FOR SETTLEMENT.

In 1895 attention was directed to the question of land legislation, as it was contended that the Lands Acts of 1884 and 1889 had failed to prevent the accumulation of extensive landed estates in the hands of a very limited number of proprietors.

Although it may be said, in defence of the policy pursued by this class of landowners, that in many cases it was forced upon them by the defective nature of legislation which failed to discriminate between the very different interests of the pastoralists and of the agricultural settlers, it must nevertheless have been patent to everybody that these immense alienations of the public estate were not conducive to healthy settlement. The Acts mentioned were, however, amended by the Crown Lands Act of 1895. Many radical changes in land legislation were effected by that Act; but immediate remedial action could be taken only in connection with Crown lands which have not been alienated or leased to Crown tenants for a definite period of years. Leases granted under certain conditions, such as those attached to conditional leases, which carry with them the right of purchase at any time during their currency, may be considered as a form of alienation, because only a comparatively small portion of these areas is ever likely to return to the public estate. Lands under homestead leases in the Western Division not brought under the Western Lands Act, scrub lands, snow-covered areas, inferior lands, settlement leases, improvement leases, leases to outgoing pastoral lessees, leases for long periods of fixed tenure, and under the Western Lands Act for long terms, form another category of lands concerning which past legislation prevented immediate action.

The lands which can be affected beneficially by the Act of 1895 and subsequent enactments are, therefore, limited to the area which is unalienated, or for which contracts have not been made, and is further reduced by reserves for public purposes, for gold-fields and other forms of mining enterprise, and for railway and other purposes. As has been shown previously, the area which had been placed practically beyond State control at the end of June, 1916, was as follows:—

	acres.
Area alienated	41,172,383
Area conditionally purchased standing good	18,315,095
Area under Lease with right to convert... ..	22,044,506
Total area placed practically beyond State control ...	81,531,984

Adding together 81,531,984 acres practically beyond State control, and 77,245,268 acres of land leased on long contracts, a total of 158,777,252 acres shows the extent of territory which can now be more closely settled and intensely cultivated only by voluntary action of the holders, or by more systematic and probably costly resumptions. The balance is 39,281,628 acres; of this 2,969,080 acres represent the water area, and a considerable area, probably 3 or 4 million acres, must be deducted for roads and for useless land, leaving perhaps 32 million acres available for occupation under various tenures. There is, however, a difficulty attending any calculation of the area included in land under long leases, which might be made available for settlement. This is apparent when the conditions under which the leases are now held are taken into consideration. Except where right to renewal on expiration of the lease exists, certain areas are continually reverting to the Crown by effluxion of time, and again in respect of certain leases provisions

have been made whereby the Minister may at his discretion withdraw a part, and in some cases the whole, of a leased area, or he may resume such leases for the purposes of settlement.

AREAS FOR SETTLEMENT, 1915-16.

With a view to classifying and bringing forward those areas which are suitable for settlement, systematic inspections of Crown lands are made in each district. To meet the demand for land, 2,279,417 acres were made available during the year 1915-16, for the classes of holdings specified below :—

	acres.
For Crown Lease	1,981,513
Homestead Farms	172,772
Suburban Holdings	6,313
Additional Holdings	10,511
Irrigation Farms and Allotments	19,901
Area acquired (Closer Settlement)	88,382
Conditional Purchase and Conditional Lease	25
	<hr/>
	2,279,417
Area gazetted prior to 30th June, 1916, but not available until after that date	200,119
	<hr/>
Total... ..	2,479,536

RESERVES.

The total area of reserved lands in the State as at 30th June, 1916, was 27,575,210 acres. A classification of reserves according to the purpose for which used is shown below :—

Class of Reserves.	Acres.
Travelling Stock	6,149,130
Water	2,318,105
Mining	1,239,589
Forest	6,346,584
Temporary Commons	527,359
Railway	284,180
Recreation and Parks	230,479
Pending Classification and Survey	5,338,559
From Conditional Purchase, within Gold-fields	846,671
Miscellaneous	4,294,554
	<hr/>
Total	27,575,210

The extent of land set apart for timber conservation amounts to 6,346,584 acres ; for routes and camping-places for travelling stock 6,149,130 acres have been reserved, 3,708,040 acres being in the Western Division ; water reserves embraced 2,318,105 acres, of which 1,402,855 acres are in the Western Division.

A revision of the reserved lands is being made in each Land District with the object of withdrawing from reserves any area the continued reservation of which is not required in the public interest.

LAND RESUMPTIONS.

Land required by the State may be obtained by resumption, purchase, exchange, surrender, or gift. Resumptions are those made under the Public Works and Lands for Public Purposes Acquisition Acts, and are treated by the Government Land Valuer, except those made for purposes of Public Instruction or of Railways. Resumptions under the Commonwealth Lands Acquisition Act, 1906, are also included.

The following statement shows the area of such resumptions and purchases which were made during the past eight years:—

Year.	Resumptions and Purchases.			Gifts.			Total.		
	a.	r.	p.	a.	r.	p.	a.	r.	p.
1908	5,974	0	20	67	0	17	6,041	0	37
1909	2,779	1	33	240	1	34	3,019	3	27
1910	3,815	2	0	62	3	2	3,878	1	2
1911	13,159	0	4	6	2	10	13,165	2	14
1912	148,332	1	26	4	0	24	148,336	2	10
1913	102,187	3	11	15	2	23	102,203	1	34
1914	14,514	0	16	27	3	31	14,542	0	7
1915	19,107	3	8	17	0	10	19,124	3	18
1916	25,111	2	15	13	0	25	25,124	3	0

Resumptions and purchases, and the purposes thereof, during 1915-16 were:—

Area.				Area.			
	a.	r.	p.		a.	r.	p.
Defence	2,969	2	16·25	Port in connection with			
General Purposes ...	8,738	1	9·83	Seat of Commonwealth			
Irrigation	1,824	1	23	Government and De-			
Postal	17	2	2·25	fence	4,164	0	0
Material for use Federal				Railways, and Tram-			
Territory	1,588	2	37	ways... ..	5,577	2	16·98
Public School sites ...	244	2	14·50	Total... ..	25,124	2	39·81

REVENUE FROM PUBLIC LANDS, 1912-16.

The following statement shows the Revenue received from Public Lands during the years ended 30th June, 1912 to 1916, and also the Revenue per capita :—

Head of Revenue.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
ALIENATION—	£	£	£	£	£
Auction and Special Sales—					
Auction Sales	83,764	63,001	43,762	31,630	27,329
Improved Purchases	1,225	3,149	2,427	2,753	2,982
Newcastle Pasturage Reserve Sales	996	904	619	619	453
Miscellaneous Purchases	13,631	25,801	18,233	10,698	15,655
Total	£ 99,616	92,855	65,041	45,700	46,419
Conditional Purchases—					
Deposits and Improvements (Acts, 1884 and 1889)	70,930	62,303	42,068	25,782	37,083
Instalments and Interest (Acts of 1875, 1884, and 1889)	595,805	660,703	721,470	715,697	794,267
Interest (Act of 1861)	18,894	17,094	17,279	16,131	18,319
Balances (Acts, 1861, 1875, 1884, and 1889)	146,593	138,013	101,210	71,231	128,502
Homestead Selections (Improvements and Rent)	48,577	40,768	43,409	38,621	39,656
Total	£ 880,799	918,881	925,436	867,462	1,017,827
OCCUPATION—					
Pastoral Leases—					
Pastoral	706	720	735	769	734
Conditional	201,450	207,043	211,662	201,526	206,530
Conditional Purchase	22,692	20,729	20,704	16,987	18,927
Occupation Licenses	26,952	25,051	23,060	21,242	20,621
Homestead and Farm	1,771	1,551	1,114	1,085	1,343
Annual and Snow	33,547	40,607	37,405	35,639	31,902
Scrub and Inferior	9,853				
Settlement	85,331	79,147	72,238	67,743	68,204
Improvement	49,644	46,203	40,947	37,693	37,167
Artesian Well	198	144	144	118	169
Church and School Land	471	515	406	399	391
Western Land Division	83,364	89,613	84,662	87,488	90,073
Blockholders Act of 1901	7	...	...	...	...
Leases under 18th Section, Land Act, 1903	9,645	10,146	9,934	9,160	8,199
Crown Leases	1,017	4,059	7,268	11,748	18,167
Suburban Holdings	77	940	1,881	2,693	4,192
Total	£ 526,725	526,468	512,160	494,290	506,619
Mining—					
Mineral Leases	17,739	18,796	19,682	15,426	15,602
Leases of Auriferous Lands	1,892	1,837	1,755	1,668	1,315
Gold and Mineral Dredging Leases	945	821	834	793	651
Miners' Rights	2,777	3,004	2,780	2,484	2,399
Business Licenses	764	691	656	565	517
Residential Leases	1,679	1,703	1,611	1,816	1,830
Royalty on Minerals	89,423	103,851	110,893	99,345	111,194
Fees—Warden's Courts and Department of Mines	1,689	1,715	1,959	1,439	1,322
Other Receipts	3,552	5,015	5,032	3,842	3,344
Total	£ 120,460	137,433	145,202	127,378	138,174

Head of Revenue.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
OCCUPATION (<i>continued</i>)—	£	£	£	£	£
Miscellaneous Land Receipts—					
Timber Licenses, &c. ...	94,560	96,929	98,972	88,908	66,922
Rents, Special Objects ...	43,064	44,546	47,174	52,800	57,087
Fees on Preparation and Enrolment of Title-deeds ...	6,823	5,346	4,609	3,742	4,058
Survey Fees ...	24,297	27,428	23,992	22,623	24,898
Fees on Transfer of Leases ...	2,919	2,254	2,742	2,653	2,769
Quit Rents and Other Receipts	22,471	27,859	38,479	24,254	27,804
Total ...	£ 194,134	204,362	215,968	194,980	183,538
Gross Revenue ...	£ 1,821,734	1,879,999	1,863,807	1,729,810	1,892,577
Refunds ...	£ 56,275	44,051	34,920	31,729	27,264
Net Revenue ...	£ 1,765,459	1,835,948	1,828,887	1,698,081	1,865,313

REVENUE PER CAPITA.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auction and Special Sales ...	0 1 2	0 1 0	0 0 9	0 0 6	0 0 6
Conditional Purchases ...	0 10 5	0 10 4	0 10 1	0 9 4	0 10 11
Pastoral Occupation ...	0 6 3	0 5 11	0 5 7	0 5 4	0 5 5
Mining Occupation ...	0 1 5	0 1 7	0 1 7	0 1 5	0 1 6
Miscellaneous Land Receipts ...	0 2 3	0 2 4	0 2 4	0 2 1	0 1 11
Gross Revenue ...	£ 1 1 6	1 1 2	1 0 4	0 18 8	1 0 3
Refunds ...	£ 0 0 8	0 0 6	0 0 5	0 0 5	0 0 3
Net Revenue ...	£ 1 0 10	1 0 8	0 19 11	0 18 3	1 0 0

CLOSER SETTLEMENT.

Under the Closer Settlement Act, 1901, provision was made for the acquisition of private lands, or of lands leased from the Crown, for purposes of closer settlement, lands so acquired to be divided into farms and leased for a term of ninety-nine years, at an annual rental not exceeding 5 per cent. of the capital value of the land. No power of compulsory resumption was conferred, and, consequently, the Act was practically inoperative.

Under the Closer Settlement Act, 1904, which repealed the 1901 enactment, provision was made for compulsory resumption, for purposes of closer settlement, of private land, when the value exceeds £20,000, exclusive of improvements, and owners could offer to surrender private lands at specified prices, such offer to be binding on the owner for a period of nine months. These provisions have been repealed by the Closer Settlement (Amendment) Act, 1914.

The Closer Settlement Amendment Act, 1907, constituted three Advisory Boards to report upon lands suitable for closer settlement, the land being purchased by agreement with the owner, or acquired by resumption when the value, without improvements, exceeds £20,000. Within six months after the passing of an Act sanctioning the construction of a line of railway, the Governor may notify a list of estates within 15 miles of a railway line; within six months of this notification the Governor may purchase or resume for purposes of closer settlement land so notified the property of one owner and exceeding £10,000 in value.

Land comprised in an improvement or scrub lease, or lease to outgoing pastoral lessee, may also be resumed for closer settlement upon the recommendation of an Advisory Board constituted under the Act of 1907.

Before land acquired is available for settlement, the areas and values per acre of the proposed settlement purchases must be approved by the Minister. The area available may include not only land acquired under the Act but also any adjacent Crown lands set apart for the purpose. Settlement areas are notified for disposal in three classes, viz., agricultural lands, grazing lands, and township settlement allotments.

In the Closer Settlement Amendment Act, 1909, provision is made that at any time after a proclamation of intended acquisition of an estate, if an agreement be made that the land shall be subdivided for closer settlement by the owner, the power of resumption may be suspended for a term not exceeding two years. Any sale or lease made under such agreement must be submitted to the Minister, and if it be found that the owner has failed to fulfil the conditions, the suspension of the power of resumption shall cease.

Males above the age of 16 years, and females over 21 years, may apply for land under the Act, if they are not holders, except under annual tenure, of land which, with the area sought, will substantially exceed a home-maintenance area; but if any person divests himself of land in order to apply for a settlement purchase, his application will be disallowed, unless the Minister's consent in writing be obtained to the making of an application.

The person applying, if a woman, must be unmarried or widowed, or if married, be living apart from her husband under a decree for judicial separation; but with the Minister's consent a married woman not living apart from her husband may apply for a settlement purchase, in which case the lands held by her husband will be considered in estimating whether the area held, together with that applied for, substantially exceeds a home-maintenance area; and in considering any application by a married man not so living apart, the total area held by husband and wife will be similarly considered.

Applications, accompanied by a deposit of $5\frac{1}{2}$ per cent. of the notified capital value of the land, are lodged with the Crown Land Agent of the district, or with any other officer duly appointed. The purchase money, including interest at $4\frac{1}{2}$ per cent., is payable in thirty-five annual instalments at the rate of $5\frac{1}{2}$ per cent. of the capital value of the land unless otherwise prescribed. Where the settlement purchase is within a settlement purchase area notified prior to 1st January, 1913, the deposit and subsequent instalments are at the rate of 5 per cent. per annum, and the interest is at the rate of 4 per cent. per annum.

Residence for a period of ten years is required, and commences at any time within twelve months after the decision of the Land Board allowing the purchase; but the term may be extended to any date within five years of the allowance of purchase, and on such terms and conditions as to improvements and cultivation as may be arranged between the applicant and the Land Board. Residence implies continuous and *bona fide* living upon the area allotted, or upon a township settlement allotment in the same settlement purchase area. Subject to the approval of the Land Board, the condition as to residence may be observed in any adjacent town or village; or, by permission, may be suspended. Residence may be permitted on another holding of the applicant.

On unimproved land, the purchaser is required to effect substantial and permanent improvements to the extent of 10 per cent. of the capital value within two years from the date of application, with an additional 5 per cent.

within five years, and a further 10 per cent. within ten years from the same date. Existing improvements on the land are held to fulfil this condition to the amount of their value. Every purchaser is subject to conditions as to mining, cultivation, destruction of vermin and noxious weeds, &c.

The Minister may give consent to the temporary occupation, subject to certain conditions, of any lands within a settlement purchase area which remain unselected. The permit to occupy does not exempt the land from settlement purchase.

Under the provisions of the Crown Lands Amendment Act, 1912, the holder of a settlement purchase under the Closer Settlement Acts, other than those acquired under the Closer Settlement Promotion Act, 1910, may under certain conditions convert such holding into a homestead farm.

The three Advisory Boards constituted under the Closer Settlement Act to inspect and report upon suitable estates for closer settlement were replaced in January, 1911, by one central Board to deal with closer settlement for the whole State; an additional Board has since been appointed.

The following table contains information regarding areas administered under the Closer Settlement Acts as at 30th June, 1916:—

Name of Settlement Purchase Area.	Lands comprised in Settlement Areas.			Price paid for Acquired land.	
	Acquired land.	Adjoining Crown land.	Total.	Total.	Per Acre.
	acres.	acres.	acres.	£	£ s. d.
Myall Creek, Inverell	53,929	19,271	73,200	138,866	2 11 6
Gobbagombalin, Wagga	61,866	4,622	66,488	207,560	3 7 1
Marrar, Wagga	26,608	781	27,389	68,777	2 11 8
Walla Walla, Albury	50,156	1,580	51,736	250,687	5 0 0
Sunny Ridge, Cowra	12,031	420	12,451	49,038	4 1 8
Boree Creek, Urana	17,002	242	17,244	61,385	3 12 3
Peel River, Tamworth	99,618	114	99,732	405,416	4 1 5
Mungery, Parkes	55,159	47,371	102,530	115,878	2 2 0
Coreen and Back Paddock, Corowa	37,862	1,492	39,354	140,000	3 14 1
Brookong, Urana	12,006	156	12,162	42,170	3 10 3
Piallaway and Walhallow, Tamworth	12,447	348	12,795	61,980	5 0 0
Everton, Dubbo	6,477	6,049	12,526	19,426	3 0 0
Pine Ridge, Mudgee	7,845	197	8,042	28,790	3 13 5
Richlands, Goulburn	8,719	302	9,021	34,885	4 0 1
Larras Lake, Molong	11,538	42	11,580	53,830	4 13 4
Crowther, Young	10,563	325	10,888	52,201	4 18 10
North Logan, Cowra	11,441	243	11,684	54,461	4 15 3
Hardwicke, Yass	6,141	112	6,253	26,100	4 5 0
Tuppai, Corowa	49,178	1,073	50,251	221,224	4 10 0
Nangus, Gundagai	7,517	212	7,729	29,819	4 0 0
Gunningbland, Parkes	12,404	109	12,513	37,212	3 0 0
Tibbereenah, Narrabri	12,357	528	12,885	49,022	3 19 8
Wandary, Forbes	8,998	439	9,437	36,963	4 2 6
Cole Park, Malton, and Rossiville, Goulburn	3,141	769	3,910	14,090	4 10 0
Bibbenluke, Bombala	16,174	410	16,584	60,339	3 15 0
Maharatta, Bombala	20,256	454	20,710	72,190	3 11 11
Warrah, Murrumbidgee	45,006	.....	45,006	192,747	4 5 8
Boorabil, Wyalong	8,717	1,781	10,498	17,433	2 0 0
Eulabil	907	.....	907	6,449	7 2 2
North Borellan	4,366	.....	4,366	18,022	4 2 6
Bygalore	19,264	324	19,588	48,867	2 11 0
Forest Vale*	20,642	.....	20,642	56,765	2 15 0
Gorman's Hill West	3,880	2,134	6,014	8,457	2 2 6
Ungarie South	11,668	87	11,755	33,546	2 17 6
Total	745,883	91,987	837,870	2,714,595	3 12 9

* Acquired and handed over to Department of Agriculture to be utilised in connection with Government scheme of share-farming.

Of the total area of Closer Settlement lands, 27,406 acres have been reserved for roads and other purposes, and 810,464 acres have been divided into 1,678 farms, the average area per farm being 483 acres.

Particulars of the subdivisions are shown in the following statement :—

Name of Settlement Purchase Area.	Farms.	Capital value of Areas contained in Farms.			Farms allotted to 30th June, 1916.	Area allotted.	Capital value of Farms allotted.
		Acquired Lands.	Crown Lands.	Total.			
	No.	£	£	£	No.	acres.	£
Myall Creek	134	138,589	24,967	163,556	134	67,003	163,556
Gobbagombalin	142	225,663	12,429	238,092	142	64,492	238,092
Marrar	46	75,133	2,040	77,173	46	27,048	77,173
Walla Walla	126	255,262	3,845	259,107	126	50,603	259,107
Sunny Ridge	24	50,292	1,236	51,528	24	12,267	51,528
Boree Creek	30	67,606	527	68,133	30	17,034	68,133
Peel River	289	438,578	126	438,704	289	97,414	438,704
Mungery	62	117,497	81,962	199,459	62	95,111	199,459
Coreen and Back Paddock ..	63	150,173	3,849	154,022	63	38,353	154,022
Brookong	20	43,155	341	43,496	20	12,006	43,496
Piallaway and Walhallow ..	38	63,485	1,371	64,856	38	12,631	64,856
Everton	18	19,886	11,571	31,457	18	12,306	31,457
Pine Ridge	16	29,556	625	30,181	16	7,946	30,181
Richlands	37	36,161	932	37,093	37	8,918	37,093
Larras Lake	30	57,137	3	57,140	30	11,484	57,140
North Logan	48	57,966	676	58,642	48	11,252	58,642
Hardwicke	21	26,857	276	27,133	21	6,172	27,133
Tuppai	117	232,110	2,362	234,472	117	49,573	234,472
Nangus	17	31,067	485	31,552	17	7,649	31,552
Gunningbland	19	38,792	118	38,910	19	12,389	38,910
Tibbereenhah	75	51,324	868	52,192	75	12,713	52,192
Wandary	18	37,985	642	38,627	18	9,075	38,627
Crowther	22	53,687	694	54,381	22	10,677	54,381
Cole Park, Malton, & Rossville	19	14,644	5,783	20,427	19	3,845	20,427
Bibbenluke	31	62,168	1,289	63,397	31	16,087	63,397
Maharatta	47	81,205	993	82,198	47	20,369	81,205
Warrah	83	209,994	..	209,994	83	44,318	209,994
Boorabil	8	19,630	3,219	22,849	4	4,565	11,649
Eulabil	5	907	..	907	5	907	6,449
North Barellan	8	4,366	..	4,366	8	4,366	18,022
Bygalore	19	59,846	434	60,280	..	..	..
Forest Vale	25	68,879	..	68,879	..	..	..
Gorman's Hill West	6	8,624	4,096	12,720	..	..	..
Ungarie South	15	41,952	203	42,155	..	..	..
Total	1,678	2,870,116	167,962	3,038,078	1,609	748,573	2,861,049

Up to 30th June, 1916, the total farms allotted were 1,609, containing 748,573 acres, of the capital value of £2,861,049, representing an average cost to the settler of £3 16s. 5d. per acre and of £1,778 per farm.

Of the above number, 44 farms, with 23,734 acres and valued at £104,946, have been converted into homestead farms, leaving 1,565 farms allotted under the Closer Settlement Act in existence, the area of which is 724,839 acres and the capital value £2,756,103.

The farms which have not yet been selected are let under permissive occupancy, and remain available for settlement purchase application.

Closer Settlement Promotion Act, 1910.

The Closer Settlement Promotion Act, 1910, enables three or more persons qualified to hold settlement purchases to negotiate with an owner of private lands in their particular district, and to apply to have such lands brought under the Act. Upon approval by the Minister, the vendor surrenders the land to the Crown, and the purchaser acquires it as a settlement purchase, obtaining an advance, secured by mortgage on the land, from the Commissioners of the Government Savings Bank, who may make advances up to 94½ per cent. of the Crown valuation of the farm, with a maximum of £3,000; the total advances by the bank under this Act in any financial year may not exceed £1,000,000. Each farm is worked independently, the co-operation of the applicants ceasing with the allotment of an area, for which each has to lodge a deposit of £5 and costs of surveys, &c., with 5½ per cent. of the Crown valuation of the farm on allotment. Repayments of advances from the Government Savings Bank are subject to the regulations in force at the date of commencement of title. At present the regulations provide for repayment at the rate of 5½ per cent. per annum of the capital value of the farm; this includes interest at 4½ per cent. on the outstanding balance, the whole indebtedness being discharged in thirty-five years.

Under the Closer Settlement (Amendment) Act, 1914, instead of the Government Savings Bank advancing the purchase money, the Minister for Lands is authorised to pay same from the Closer Settlement Fund, or to issue a negotiable certificate covering the amount. In the latter case the principal is repayable by seven equal quinquennial payments, with interest at 4 per cent. per annum, payable half-yearly.

Extension of time to pay instalments of purchase may be sanctioned in special circumstances, and holders of farms may obtain advances on account of improvements effected.

From the commencement of the Act in September, 1910, till 30th June, 1916, 1,132 farms, of a total area of 458,191 acres, were applied for, the amount involved being £2,418,247. Of this number, 944 farms, embracing an area of 369,636 acres, at a cost of £1,965,769, were allotted and finally dealt with at 30th June, 1916.

The transactions for each year were as follows:—

Year.	Estates.	Farms.	Area.	Amount Advanced.
			acres.	£
1910-11	4	26	10,785	54,131
1911-12	31	209	84,280	418,941
1912-13	36	274	107,791	599,145
1913-14	32	183	62,598	361,351
1914-15	18	108	41,235	225,634
1915-16	24	144	62,947	306,567
Total ...	145	944	369,636	1,965,769

Of the estates shown to have been dealt with during the year 1915-16, there was one containing 3 farms with an area of 1,321 acres, which was settled by certificates and cash from the Closer Settlement Fund, to the extent of £6,463.

In addition to the land acquired by the State for closer settlement a number of estates have been subdivided for that purpose by private owners.

LABOUR SETTLEMENTS.

In the Labour Settlements Act, 1902, provision is made for land to be set apart for lease as a labour settlement, under the control of a Board, which is empowered to enrol approved persons; to make regulations concerning the work to be done; to apportion the work among the members; and to distribute equitably wages, profits, and emoluments, after providing for the cost of maintenance of members; to establish any trade or industry, and apportion the profits among the enrolled members. The land is under the control of a Board, in trust for the members of the settlement.

With a sufficient enrolment of members a Board may apply for monetary assistance on behalf of the members of the settlement, to a maximum amount of £25 for each enrolled member who is the head of a dependent family; £20 for each married person without a family; and £15 for each unmarried person. On the expiration of four years from the commencement of the lease, and at the end of each year following, 8 per cent. of the total sum paid to the Board becomes a charge on its revenue, until the total amount advanced, with interest at the rate of 4 per cent. per annum, has been repaid.

On 30th June, 1916, the only settlements in existence were those at Bega and Wilberforce. At Bega an area of 1,036 acres is attached to the settlement, and on the date specified there were 26 men enrolled, the total population being 146. A sum of £2,420 has been advanced by the Government, and the value of improvements, exclusive of crops, is £3,000. At Wilberforce, an area of 409 acres has been granted for settlement. On 30th June, 1916, there were 9 men enrolled, the total population being 43. Loans from the Government amount to £2,479, the value of improvements, exclusive of crops, being £1,600.

VITAL STATISTICS

NOTE.—Vital Statistics of New South Wales are published in detail in special reports issued annually by the Statistician.

The Federal Capital Territory having been transferred to the Commonwealth on 1st January, 1911, the figures herein relate only to the State of New South Wales exclusive of that territory.

REGISTRATION OF BIRTHS, DEATHS, AND MARRIAGES.

Civil registration of births, deaths, and marriages was inaugurated in New South Wales in March, 1856, when a general registry was established, and a Registrar-General appointed by the Governor. The laws relating to registration were consolidated by the Registration of Births, Deaths, and Marriages Act, 1899, and the Acts relating to marriage by the Marriage Act, 1899.

New South Wales has been divided into 213 registry districts, in each of which a District Registrar has been appointed. The duties of these officials are discharged by private persons, Postmasters, Clerks of Petty Sessions, Crown Lands Agents, Police and Departmental Officers.

All births must be registered by the parent within sixty days. After the expiration of sixty days no birth may be registered unless, within six months, a declaration is furnished by the parent, or by some person present at the birth. Within six months of the arrival in New South Wales of a child under the age of 18 months, born outside the State, and whose parents intend to reside in New South Wales, the birth may be registered upon declaration by the parent.

Notice of the death of any person must be supplied to the District Registrar by a relation of the deceased, or by the householder or tenant of the house or place in which the death occurs.

Masters of British vessels arriving at any port in New South Wales must furnish to the District Registrar particulars regarding any birth or death which had occurred on board the ship whilst at sea.

Marriages may be celebrated only by District Registrars or by ministers of religion registered for that purpose by the Registrar-General. In the former case, the parties to be married must sign, before the Registrar of the district in which the intended wife ordinarily resides, a declaration that they conscientiously object to be married by a minister of religion, or that there is no minister available for the purpose of performing the marriage.

Within one month after a marriage the minister must transmit the original certificate to the Registrar-General or to the District Registrar.

Any party to an intended marriage, not being widowed, who is under 21 years of age, must furnish the written consent of the father, if within New South Wales, or if not, that of a guardian appointed by him, or, if there is no such guardian in the State, that of the mother. Where there is no such parent or guardian in New South Wales, or if he or she is incapable, by reason of distance, habitual intoxication, or mental incapacity, the written consent may be given by a Justice of the Peace who has been appointed by the Supreme Court as a guardian of minors.

Marriage with a deceased wife's sister is valid in New South Wales.

Marriages between Quakers or Jews may be celebrated according to their respective usages, but certificates of such marriages must be transmitted to the Registrar within ten days.

No fee is charged for the registration of a birth, marriage, or death; but a fee of 2s. is charged for a certified copy of the entry in the Register; 5s. for a search in any index; and £1 for a marriage performed by a Registrar.

CONJUGAL CONDITION.

The proportion of married persons in New South Wales is about one-third of the total population, as will be seen from the following statement, which shows the conjugal condition of the people at the Census of 1911 :—

Conjugal Condition.	Number.			Proportion per cent.		
	Males.	Females.	Total.	Males.	Females.	Total.
Never married	556,350	467,603	1,023,953	65·00	59·30	62·27
Married	275,428	276,216	551,644	32·18	35·03	33·54
Widowed... ..	22,887	43,571	66,458	2·67	5·52	4·04
Divorced	1,230	1,190	2,420	·15	·15	·15
Not stated	1,803	456	2,259	...	...	...
Total	857,698	789,036	1,646,734	100·00	100·00	100·00

The number of males who have never married is much greater than that of females, the proportion of the total population being 65 per cent. for the former, and 59·3 per cent. for the latter. The married women are more numerous than the married men, but the difference is slight. The large excess of widows over widowers is due to the greater mortality amongst men, and to the fact that cases of the re-marriage of widowers are proportionately greater than those of widows.

The proportions per cent. of the never married, married, and widowed at each census since 1861 are shown below. The divorced are not included on account of the smallness of their number, and because they were not enumerated prior to 1891:—

Census.	Males.			Females.		
	Never Married.	Married.	Widowed.	Never Married.	Married.	Widowed.
1861	69·34	28·23	2·43	61·09	35·14	3·77
1871	69·96	27·59	2·45	62·89	32·82	4·29
1881	70·64	26·93	2·43	63·52	31·75	4·73
1891	69·78	27·41	2·78	62·87	32·11	5·00
1901	68·49	28·67	2·75	62·43	32·00	5·46
1911	65·00	32·18	2·68	59·30	35·03	5·52

This table shows that the proportion of never married of both sexes increased at each census up to 1881, but decreased from 1881 to 1911, the decrease being most marked between 1901 and 1911. The married, as might be expected, showed a contrary tendency. The proportion of widowers has been fairly constant, and that of the widows has increased.

A comparison of the conjugal condition of the people at various periods of age, at the censuses of 1901 and 1911, shows that the proportion of unmarried males has decreased, the proportion of married males has increased at every age, and the proportion of widowers is slightly lower in every group. With regard to the females the decrease in the proportion never married has taken place in the age-groups 15-29 years, as there

has been an increase at all ages over 30 years. The married females in 1911 showed a proportionate increase in every group except 30-49 years, at which ages they decreased. The widows have decreased in proportion in every age-group, but as the decrease has been smallest at the older ages where the proportion is high, the proportion at all ages, 5.52 per cent., is about the same as at the census of 1901.

The following table shows the conjugal condition of the people as at the census of 1911, classified according to ages. The greatest number of married males was at the age-period 30-34 years, and the greatest number of married females at ages 25-29 years.

Ages.	Never Married.		Married.		Widowed.		Divorced.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Years.								
Under 15	266,274	259,975	2	6	...	...	...	...
15-19	82,580	77,091	398	3,833	3	13	...	1
20-24	74,733	55,492	12,203	27,031	95	198	11	39
25-29	43,591	28,428	32,188	43,113	435	663	66	141
30-34	24,109	15,893	39,083	42,598	762	1,208	149	171
35-39	15,822	10,099	37,919	38,382	1,108	1,990	162	212
40-44	12,549	6,883	36,530	33,446	1,556	2,893	181	214
45-49	10,249	4,559	34,102	28,728	2,014	4,108	199	170
50-54	8,085	3,060	28,425	22,037	2,567	4,732	184	119
55-59	5,197	1,773	19,569	14,173	2,622	4,907	112	43
60-64	3,850	1,297	13,400	9,535	2,652	5,487	71	28
65-69	2,804	945	9,680	6,177	2,810	5,864	44	20
70-74	2,270	504	5,801	3,191	2,496	4,878	20	7
75-79	1,395	259	3,212	1,370	2,027	3,602	7	8
80-84	532	101	1,095	397	1,084	1,720	6	...
85 and over	221	59	298	110	486	895	4	1
Unspecified	2,089	1,185	1,523	2,089	170	413	14	16
Total	556,350	467,603	275,428	276,216	22,887	43,571	1,230	1,190

PROPORTION PER CENT. IN EACH AGE-GROUP.

Years.								
Under 15	100.00	100.00	.00	.00	...	...	...	...
15-19	99.52	95.25	.48	4.73	.00	.02	...	.00
20-24	85.86	67.05	14.02	32.66	.11	.24	.01	.05
25-29	57.15	39.29	42.20	59.59	.57	.92	.08	.20
30-34	37.61	26.55	60.97	71.15	1.19	2.02	.23	.28
35-39	28.76	19.93	68.93	75.73	2.01	3.92	.30	.42
40-44	24.69	15.85	71.89	77.00	3.06	6.66	.36	.49
45-49	22.01	12.14	73.24	76.48	4.33	10.93	.42	.45
50-54	20.59	10.22	72.40	73.58	6.54	15.80	.47	.40
55-59	18.90	8.48	71.16	67.83	9.53	23.48	.41	.21
60-64	19.28	7.93	67.09	58.33	13.28	33.57	.35	.17
65-69	18.28	7.27	63.11	47.49	18.32	45.09	.29	.15
70-74	21.44	5.88	54.79	37.19	23.58	56.85	.19	.03
75-79	21.01	4.95	48.37	26.15	30.52	68.75	.10	.15
80-84	19.58	4.55	40.30	17.90	39.90	77.55	.22	...
85 and over	21.90	5.54	29.53	10.33	48.17	84.04	.40	.09
All Ages	65.00	59.30	32.18	35.03	2.67	5.52	.15	.15

MARRIAGES.

The number of marriages celebrated in New South Wales during 1915 was 18,129, corresponding to a rate of 9.70 per 1,000 of the population. The number was the highest recorded in any year, and the rate was approached in recent years only in 1912, but it is otherwise the highest for 58 years.

The following table shows the average annual number of marriages and the rates per 1,000 of the population during each quinquennium since 1870:—

Period.	Average Number of Marriages.	Rate per 1,000 of Population.	Period.	Average Number of Marriages.	Rate per 1,000 of Population.
1870-74	4,091	7.77	1895-99	8,700	6.74
1875-79	4,987	7.88	1900-04	10,240	7.37
1880-84	6,738	8.39	1905-09	12,080	7.97
1885-89	7,679	7.67	1910-14	15,978	9.20
1890-94	7,954	6.80	1915	18,129	9.70

Until the year 1891 the increase in the number of marriages was remarkably steady, but in 1892 there was a decline, which continued until 1895, when the figures again took an upward movement, though the proportion married per 1,000 of the population did not reach the 1891 level until 1900. In 1901 the rate was the highest since 1886, but in the next two years it again considerably declined. From 1904 to 1912 there was, however, a constant improvement. Compared with the rates of the quinquennium 1905-09, the marriage rate of 1914 disclosed an advance of over 17 per cent.

A more exact method of stating the marriage rate is to compare the marriages with the number of marriageable males and females in the community, since the marriage rate is mainly a function of age.

Of the bachelors marrying in New South Wales only $4\frac{1}{4}$ per cent. are outside the ages 20-44; of the spinsters less than $1\frac{1}{2}$ per cent. are outside the ages 15-39. These have, therefore, been adopted as the marriageable ages of the sexes, and the following table shows, at quinquennial intervals since 1871, the proportion of bachelors and of spinsters married, per 1,000 unmarried males and females within the specified groups:—

Year.	Proportion of Bachelors married per 1,000 unmarried males aged 20 to 44.	Proportion of Spinsters married per 1,000 unmarried females aged 15 to 39.	Year.	Proportion of Bachelors married per 1,000 unmarried males aged 20 to 44.	Proportion of Spinsters married per 1,000 unmarried females aged 15 to 39.
1871	65.60	87.07	1906	65.32	62.87
1876	64.78	83.66	1911	79.11	74.96
1881	65.21	82.32	1912	81.55	78.17
1886	65.08	82.81	1913	77.26	73.81
1891	57.85	71.28	1914	80.66	76.38
1896	54.65	58.13	1915	83.35	77.93
1901	65.92	62.69			

Up to 1896 the female rate was the higher, but since that year the male rate has been exceeded the female, as a result of the increase in the proportion of females in the population. The rates for both sexes were fairly constant until the year 1886; during the succeeding decennium there was a great drop, and the year 1896 showed the lowest rate for both males and females. There

was a marked increase from 1906 to 1912, but the rate declined in 1913 as compared with the previous year. There was an improvement in both rates in 1914, which continued into 1915, and compared with the 1906 figures the male and female rates for the latter year were 20 and 21 per cent. higher respectively.

The marriage rate is an intimate reflex of the comparative prosperity of a country; and a high marriage rate is an obvious proof of the existence of a considerable proportion of marriageable persons in the community. From each point of view the facts in respect to New South Wales must be regarded as very gratifying.

The following statement shows the marriage rate per 1,000 of the population in each State of the Commonwealth of Australia, New Zealand, and in a number of other countries, during the last six years:—

State.	1910-1914.	1915.	Country.	1909-1913.	1914.
<i>New South Wales</i> ...	9.20	9.70	Roumania ...	9.3	8.5
<i>New Zealand</i> ...	8.51	9.12	France ...	7.8	5.1
<i>South Australia</i> ...	9.44	9.01	England and Wales ...	7.6	8.0
<i>Victoria</i> ...	8.28	9.00	Italy ...	7.6	7.5
<i>Queensland</i> ...	8.57	8.94	Netherlands ...	7.3	6.7
<i>Tasmania</i> ...	7.85	8.03	Switzerland ...	7.3	...
<i>Western Australia</i> ...	8.20	7.99	Denmark ...	7.3	6.9
			Spain ...	7.0	6.5
			Scotland ...	6.7	7.4
			Norway ...	6.2	6.5
			Sweden ...	5.9	5.8
			Ireland ...	5.2	5.4

In 1915 in all the States except South Australia and Western Australia the rates showed an improvement as compared with the experience of the quinquennium, 1910-14; but New South Wales heads the list, with the Dominion a good second.

A comparison of the marriage rates of various countries may be misleading, on account of the different conditions of life and the varying number of marriageable persons. With few exceptions, the rates are lower than in New South Wales.

MARK SIGNATURES IN MARRIAGE REGISTERS.

The number of persons who signed the marriage register with marks in the year 1915 was 120, equal to 3.31 per 1,000 persons married.

In 1870 the proportion of signatures made with marks was as high as 18.23 per cent. of the whole, and this significant decrease in illiteracy is emphatic evidence of the efficiency of the State system of public instruction.

MARRIAGES, IN RELIGIONS.

Of every hundred marriages performed in New South Wales, about ninety-seven are celebrated by ministers of religion licensed under the authority of the Registrar-General. The number of marriages at which ministers of religion officiated during the year 1915 was 17,624; and of those contracted before District Registrars, 505, or a proportion respectively of 97.2 and 2.8 per cent.

The Church of England performs the largest number of marriages, followed in order by the Roman Catholic, the Presbyterian, and the Methodist denominations.

As compared with the previous quinquennial period, the returns relating to marriages solemnised by the Church of England, the Roman Catholic, and the Baptist denominations show increased rates for the year 1915. The following table gives the number and proportion per cent. of marriages registered by the several denominations during 1915, in comparison with the preceding quinquennium :—

Denomination.	Marriages, 1910-1914.	Proportion per cent.	Marriages, 1915.	Proportion per cent.
Church of England ...	33,411	41·82	7,800	43·03
Roman Catholic ...	14,330	17·94	3,399	18·75
Presbyterian... ..	11,105	13·90	2,480	13·68
Methodist	11,019	13·79	2,402	13·25
Congregational ...	4,167	5·22	619	3·41
Baptist	1,414	1·77	325	1·79
Hebrew	229	·29	48	·26
All other Sects ...	2,509	3·14	551	3·04
District Registrars ...	1,705	2·13	505	2·79
Total Marriages ...	79,889	100·00	18,129	100·00

CONDITION BEFORE MARRIAGE.

During the year 1915, of the males married, 17,129 were bachelors, 873 were widowers, and 127 were divorced. Of the females, 17,151 were spinsters, 793 were widows, and 185 were divorced. The proportion of males re-married was 5·52 per cent., and of females 5·39 per cent.

The following table shows at quinquennial intervals since 1881 the proportion of first marriages and re-marriages per 10,000 married :—

Period.	Bachelors.	Widowers and Divorced Men.	Spinsters.	Widows and Divorced Women.
1881	9,087	913	9,044	956
1886	9,137	863	9,156	844
1891	9,229	771	9,216	784
1896	9,184	816	9,172	828
1901	9,270	730	9,268	732
1906	9,262	738	9,352	648
1911	9,407	593	9,456	544
1912	9,393	607	9,396	604
1913	9,410	590	9,413	587
1914	9,431	569	9,418	582
1915	9,449	552	9,461	539

The foregoing figures emphasize the fact of a growth, in widowers no less than widows, of a disinclination for re-marriage. In the case of both sexes this indifference to a re-entry into the condition of wedlock declined by about 40 per cent. from the earliest period given in the table, widows displaying a slightly greater aversion to the contraction of a second union. The rise in the proportion for the interval 1901-6 was followed by an increased declension during the succeeding quinquennium.

AGE AT MARRIAGE.

Of the 18,129 couples married in 1915, the ages of both 18,127 bridegrooms and brides were recorded. In 70·4 per cent. of the marriages the man was older than the woman; in 10·5 per cent. their ages were the same, and in the remaining 19·1 per cent., the bride was older than the bridegroom.

The results of a tabulation of the respective ages of bridegrooms and brides in 1915 are shown in the following table :—

Ages of Bridegrooms.	Ages of Brides.												Total.
	Under 18	18	19	20	21 24	25 29	30 34	35 3	40 44	45 49	50 and over.	Not stated	
Under 18 years ..	11	6	4	3	3	..	..	..	..	..	..	..	27
18 years.. ..	33	20	11	13	4	..	..	..	..	..	..	..	81
19 „	52	43	29	19	42	3	..	..	..	..	..	..	188
20 „	60	80	66	61	103	15	2	1	..	..	..	..	388
21-24	347	424	552	637	2,856	705	77	17	..	1	1	..	5,617
25-29	150	188	284	371	2,728	2,246	462	79	14	6	3	..	6,531
30-34	31	21	56	89	726	965	583	178	31	13	1	..	2,714
35-39	10	9	24	36	194	331	294	210	63	26	4	..	1,201
40-44	6	6	6	6	52	121	117	114	80	31	7	..	546
45-49 .. ..	..	..	6	7	21	56	70	91	63	64	21	..	399
50 and over ..	..	..	2	2	14	23	44	74	74	77	125	..	435
Not stated ..	..	..	..	..	..	..	..	..	..	..	..	2	2
Total	700	797	1,040	1,244	6,743	4,485	1,640	764	325	218	162	2	18,129

The following statement shows the average age at marriage both of bridegrooms and brides for each of the last ten years. The difference between the ages at marriage of males and females is now about $3\frac{1}{4}$ years, the males being the older.

Year.	Average age of Bridegrooms.	Average age of Brides.	Year.	Average age of Bridegrooms.	Average age of Brides.
	Years.	Years.		Years.	Years.
1906	29·23	25·08	1911	28·81	25·32
1907	29·20	25·20	1912	28·91	25·47
1908	29·02	25·19	1913	28·85	25·56
1909	29·11	25·30	1914	28·77	25·53
1910	29·02	25·31	1915	28·71	25·51

The average age at marriage, both of bridegrooms and brides, has remained practically constant during the last ten years, although there is now a tendency to a slightly lower average on the part of the former, and to a slightly higher average on the part of the latter.

The foregoing figures relate to all persons marrying during the year, and include those contracting fresh unions. Compared with that of 1906, the first year given in the table, the average marrying age of bachelors during 1915 was 27·95 years, and of spinsters 24·99 years, or a difference of about a year lower in the case of bridegrooms, and of ten months lower in the case of brides.

MARRIAGE OF MINORS.

The number of persons under 21 years of age who were married during 1915 was 4,465, or 12·3 per cent. of the total. The proportion of bridegrooms who were minors was 3·8 per cent., and of brides 20·9 per cent. The following are the figures at quinquennial intervals since 1881 :—

Year.	Minors.		Percentage of—	
	Bridegrooms.	Brides.	Bridegrooms.	Brides.
1881	149	1,660	2·37	26·42
1886	187	1,806	2·39	23·12
1891	177	2,085	2·09	24·65
1896	212	2,065	2·49	24·31
1901	351	2,546	3·33	24·15
1906	497	2,837	4·30	24·56
1911	701	3,499	4·59	22·92
1912	769	3,734	4·61	22·41
1913	705	3,514	4·32	21·54
1914	718	3,737	4·14	21·53
1915	684	3,781	3·77	20·86

Compared with the early years it will be seen from this table that the proportion of minors marrying has increased among bridegrooms and decreased amongst brides.

BIRTHS.

The number of births registered during 1915, the highest recorded for this State during any single year, was 52,885, equal to a rate of 28·31 per 1,000 of the total population, but 2·0 per cent. below the average for the last quinquennium. The birth-rate fell away sharply after 1888, and declined continuously till 1903, but since that year there has been an improvement, and in 1912 it was the highest rate since 1895.

The decrease in the rate in 1913 as compared with the previous year is due probably to the operation of the Maternity Allowance Act, by which the Commonwealth Government provided allowances in respect of births occurring in Australia. The Act came into force on 10th October, 1912, and had the effect of causing the prompt registration during the last months of 1912 of many births, which otherwise would not have been registered until 1913.

The following table shows the average annual number of births and the birth-rate per 1,000 of the total population in quinquennial periods since 1870 :—

Year.	Average Births.	Birth-rate per 1,000 of Population.	Year.	Average Births.	Birth-rate per 1,000 of Population.
1870-74	20,733	39·36	1895-99	37,042	28·68
1875-79	24,388	38·51	1900-04	37,498	26·99
1880-84	30,417	37·89	1905-09	41,788	27·56
1885-89	36,877	36·85	1910-14	50,190	28·90
1890-94	39,550	33·80	1915	52,885	28·31

BIRTH-RATES.

The rates shown in the previous table are calculated by the usual crude method of relating the births to the total population. It is unsatisfactory, for several reasons, so to measure the birth-rate. A preferable method for purposes of strict analysis is to relate the births according to the ages of the mothers to the total women living at corresponding ages.

This method can be followed with exactitude only at Census periods, since at any other period an accurate estimate of the number living at various ages is very difficult, on account of migration and other influences.

The ages and conjugal condition of the people of New South Wales having been obtained at the census of 1911, the birth-rates per 1,000 of women living at various groups of reproductive ages, from 15 to 45 years, are shown in the following tables (distinguishing the total births from the legitimate, the illegitimate rates being shown on a later page), for the three census periods of 1891, 1901, and 1911.

The total births per 1,000, of all females living at each age, were as follow :—

Ages of Mothers.	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
Years.				
15-19	35.30	30.87	33.75	4.4
20-24	170.90	134.65	141.45	17.2
25-29	247.48	177.95	187.35	24.3
30-34	238.81	168.42	161.20	32.5
35-39	196.15	136.60	122.27	37.7
40-44	96.61	70.79	54.51	43.6
15-44	161.74	117.46	118.50	26.7

From this table it will be seen that the decline has been general in all age groups since 1891, which is the first year for which the ages of mothers are available. As regards the relative decrease at each age, there has been a drop which increased as the age increased. At ages 15-19 the decrease was 4 per cent.; at ages 25-29, 24 per cent.; and at ages 40-44, 44 per cent. For all ages the average was 27 per cent. Although the general rate shows a slight advance in 1911 when compared with 1901, the rate for mothers over 30 years of age shows a regular decrease from period to period, from which it would appear that the rate had been maintained only by births which had resulted from recent marriages.

The next table shows the legitimate births per 1,000 married women at each age :—

Ages of Mothers.	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
Years.				
15-19	471.09	556.54	512.31	(+) 8.7
20-24	410.49	390.27	392.12	4.5
25-29	348.81	292.90	301.33	13.6
30-34	288.18	221.41	219.90	23.7
35-39	233.04	168.03	156.98	32.6
40-44	116.76	86.17	69.49	40.5
15-44	292.87	228.79	229.70	21.6

(+) Indicates increase

This table shows that the rate at the youngest ages, 15-19, had advanced, and that in 1911, although lower than in 1901, it was higher than in 1891. Thence onward, however, as the age advanced, the decline became general, and amounted to 21·6 per cent.

The birth-rate per 1,000 of the population of each State of the Commonwealth, of New Zealand, and of a number of European countries according to the latest information, and during the previous five years, is given in the following table :—

State.	1910-14.	1915.	Country.	1909-13.	1914.
Queensland	28·92	29·35	Roumania	41·7	42·5
Tasmania	29·71	29·32	Italy	32·3	31·7
<i>New South Wales</i>	<i>28·90</i>	<i>28·31</i>	Spain	32·1	29·8
Western Australia	28·60	27·92	Prussia	29·7	...
South Australia	28·14	26·81	Netherlands	28·4	28·2
New Zealand	26·15	25·33	Denmark	26·9	25·6
Victoria	25·40	24·55	Scotland	26·1	26·1
			Norway	25·8	25·2
			England and Wales	24·7	23·8
			Switzerland	24·4	...
			Sweden	24·2	22·9
			Ireland	23·2	22·6
			France	19·1	18·0

The decline of the birth-rate, not only in Australia, but also in European countries, has not been continuous in the States of the Commonwealth, as the rates in 1915 generally show an advance on those of the preceding quinquennium. The Australian birth-rates are lower than in most of the countries of the Old World, but, as will be shown subsequently, this is more than counteracted by a much lower death-rate.

BIRTH-RATES—METROPOLIS AND REMAINDER OF STATE.

During the year 1915 the births recorded for the Metropolitan districts of New South Wales numbered 20,871; and for the remainder of the State 32,014, or 27·55 and 28·83 per 1,000 of the population respectively. With the exception of the year 1913, the country has consistently shown a higher birth-rate than the metropolis, taking the figures for 1893 and onwards annually. Prior to the year 1893 the metropolitan birth-rate was the higher.

Period.	Number of Births.			Births per 1,000 of Population.		
	Metropolis.	Remainder of State.	New South Wales.	Metropolis.	Remainder of State.	New South Wales.
1880-84	49,058	103,026	152,084	40·16	36·90	37·89
1885-89	65,866	118,517	184,383	41·50	34·69	36·85
1890-94	68,754	128,998	197,752	34·11	33·63	33·80
1895-99	61,224	123,986	185,210	26·73	29·75	28·68
1900-04	63,694	123,795	187,489	25·16	28·05	26·99
1905-09	72,409	136,529	208,938	25·50	28·80	27·56
1910-14	95,529	155,423	250,952	28·26	29·32	28·90
1915	20,871	32,014	52,885	27·55	28·83	28·31

SEXES OF CHILDREN.

Of the 52,885 children born during the year (exclusive of children still-born), 27,105 were males and 25,780 were females, the proportion being 105 males to 100 females. In no year, so far as observation extends, have the female births

exceeded in number those of male, although the difference has sometimes been very small. The preponderance of births of male children in New South Wales during a number of years is shown in the following table:—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1870-74	10,577	10,156	20,733	1895-99	18,979	18,063	37,042
1875-79	12,477	11,911	24,388	1900-04	19,134	18,364	37,498
1880-84	15,567	14,850	30,417	1905-09	21,406	20,382	41,788
1885-89	18,898	17,979	36,877	1910-14	25,728	24,462	50,190
1890-94	20,324	19,226	39,550	1915	27,105	25,780	52,885

The excess of males over females born during the past fifty-five years has ranged from 2 per cent. in 1875, 1876, and 1901, to 9 per cent. in 1864, the average being 5 per cent.

It is noteworthy that in the case of illegitimate births, the rate for males has always maintained the ascendancy, save in the quinquennial period 1885-89 and the year 1915, when the rate for females predominated slightly.

The following table shows the number of males born to every 100 females, both in legitimate and illegitimate births, during the last forty-five years:—

Year.	Legitimate Births.	Illegitimate Births.	All Births.	Year.	Legitimate Births.	Illegitimate Births.	All Births.
1870-74	104·3	101·0	104·1	1895-99	105·0	105·4	105·1
1875-79	104·6	108·8	104·8	1900-04	104·3	102·8	104·2
1880-84	104·9	103·9	104·8	1905-09	105·0	104·9	105·0
1885-89	105·4	98·8	105·1	1910-14	105·2	105·1	105·2
1890-94	105·7	105·4	105·7	1915	105·4	99·8	105·1

ILLEGITIMACY.

The number of illegitimate births in 1915 was 2,681, equal to 5·07 per cent. of the total births. A statement of the illegitimate births in New South Wales, distinguishing between the metropolis and the remainder of the State, is given below.

Year.	Number of Illegitimate Births.			Ratio per cent. to Total Births.		
	Metropolis.	Remainder of State	New South Wales.	Metropolis.	Remainder of State.	New South Wales.
1880	561	665	1,226	6·72	3·36	4·35
1890	1,056	995	2,051	7·81	3·91	5·26
1900	1,222	1,383	2,605	10·08	5·53	7·01
1905	1,530	1,382	2,912	11·11	5·37	7·37
1910	1,530	1,370	2,900	9·44	4·67	6·37
1911	1,680	1,269	2,949	9·42	4·25	6·18
1912	1,647	1,287	2,934	8·18	4·04	5·64
1913	1,522	1,280	2,802	7·41	4·05	5·37
1914	1,448	1,330	2,778	6·95	4·06	5·18
1915	1,480	1,201	2,681	7·09	3·75	5·07

The proportion of illegitimate to total births increased steadily from 1880 to 1905, since which year there has been an appreciable decline.

The smaller proportion of illegitimate births in the extra-Metropolitan area of the State is doubtless partly due to the fact that prospective mothers journey to the metropolis, not only for the sake of the advantages of lying-in at one of the public maternity hospitals, but to avoid the publicity of their unfortunate condition and its attendant social ostracism. However, in the

absence of data as to the proportion of unmarried females of productive ages in each division, a comparison is impracticable

The method of stating the illegitimate as a proportion of the total births is erroneous, because the illegitimate births have no necessary relation to the legitimate births, and because they are compared with a standard which has been declining for several years, and which is itself variable.

The following table is therefore presented—on a similar basis to those on a previous page relating to the total, and to the legitimate births—showing the illegitimate births per 1,000 unmarried women at each age for the three census periods, 1891, 1901, and 1911 :—

Ages of Mothers.	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
Years.				
15-19	10.81	11.14	9.85	8.9
20-24	25.80	23.45	19.30	25.2
25-29	25.73	18.38	18.64	27.6
30-34	27.73	17.46	15.69	43.4
35-39	23.79	14.83	13.57	43.0
40-44	5.68	7.83	4.24	25.4
15-44	18.41	16.10	14.18	23.0

The usual method of stating illegitimate births is to present them as a proportion of the total births. This mode, as stated, is erroneous, and made it appear that illegitimacy was on the increase in this State down to the year 1905.

From the foregoing table it will be seen that the illegitimate rate, based upon the number of unmarried women, has steadily decreased at all ages, such decrease amounting on the average to 23 per cent. during the twenty years 1891-1911. The decline has been general at all ages, and greater than in the legitimate rate.

LEGITIMATION ACT OF 1902.

In 1902 an Act to legitimise children born before marriage on the subsequent marriage of their parents, provided that no legal impediment to the marriage existed at the time of birth, was passed in New South Wales. On registration in accordance with the provisions of this Legitimation Act, any child who comes within the scope of its intentions, born before or after the passing thereof, is deemed to be legitimised from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. Legitimation is effected on the father of the child presenting to a Registrar a certified copy of the entry of his marriage with its mother, and tendering the necessary statutory declaration. The child, even though it may have predeceased this obligation, is thereupon registered as the lawful issue of its parents. In the event of the child's previous registration as illegitimate, a note of the entry under this Act must be made in the register, in which the particulars of such registration were originally inscribed. Since the passing of the Act there have been 3,649 registrations.

Year.	Registrations.	Year.	Registrations.
1902	6	1909	267
1903	158	1910	288
1904	173	1911	394
1905	175	1912	405
1906	191	1913	298
1907	247	1914	393
1908	238	1915	416

PLURAL BIRTHS.

During the year 1915 there were 6,057 cases of plural births. The children thus born numbered 1,210 (exclusive of eight still-births), and included 597 cases of twins (590 males and 597 females), and eight cases of triplets (13 males and 10 females). Of these 605 cases, 23 were classified as illegitimate. The number of children born at plural births formed 2·30 per cent. of the total births.

The following table shows the number of cases of twins, triplets, and quadruplets born in New South Wales during the twenty-three years 1893-1915, excluding those still-born, and distinguishing legitimate and illegitimate:—

Cases of—	Legitimate.	Illegitimate.	Total.
Twins	9,455	475	9,930
Triplets	88	6	94
Quadruplets ...	4	...	4

The total number of confinements recorded during the twenty-three years was 954,678; hence the rates per million confinements were:—10,401 cases of twins, 98 of triplets, and 4 of quadruplets; otherwise stated there were 105 plural births in every 10,000 confinements.

The smallest proportion of plural births is found amongst women below age 20; but the proportion increases steadily with the ages of the mothers until it reaches a maximum with women between the ages of 35 and 40 years; after which there is a decline, but the decline does not bring the ratio back to its starting-point, for at ages 45 and over the plural births are 1 to every 132 confinements recorded, whereas under 20 years the proportion is 1 to 202.

NATURAL INCREASE.

In the year 1915 the excess of births over deaths, or, as it is actuarially termed, the "natural increase," was 33,275. It fell, however, below that of the previous year to the extent of 1,563; but the figures for 1914 were the highest on record. The excess of births over deaths shows neither a progressive increase nor a progressive decrease. In its very nature, and according to the varying conditions which regulate it, natural increase fluctuates, being dependent on material prosperity and favourable environment.

The following table shows the natural increase of population over ten years (1906-15) for the metropolis, the remainder of the State, and the whole of New South Wales:—

Year.	Natural Increase.					Increase Per cent. of population at end of previous year.
	Metropolis.	Remainder of State.	Whole of State.			
			Males.	Females.	Total.	
1906	8,281	17,692	12,351	13,622	25,973	1·77
1907	8,096	17,659	12,187	13,598	25,785	1·72
1908	8,825	17,610	12,320	14,115	26,435	1·73
1909	9,312	18,617	13,297	14,632	27,929	1·79
1910	9,839	19,503	14,094	15,248	29,342	1·84
1911	10,856	19,642	14,504	15,994	30,498	1·86
1912	12,459	20,648	15,526	17,581	33,107	1·95
1913	12,597	19,805	15,091	17,311	32,402	1·82
1914	13,218	21,620	16,433	18,405	34,838	1·90
1915	12,682	20,593	15,648	17,627	33,275	1·79

The natural increase is now 1·79 per cent., as against 2·25 per cent. in 1890, the falling-away being due entirely to the decline in the birth-rate, since the death-rate has exhibited a continuous improvement.

Although male births are more numerous than those of females, the increase of population from the excess of births over deaths is greatly in favour of the latter. The male population certainly exceeds the female, but there is a correspondingly larger number of deaths among males. There is also, a greater mortality among male than among female children, a cause from which alone the natural excess of male births is almost neutralised. During the ten years which closed with 1915, the number of females added to the community by excess of births exceeded the males by 16,682, or 12 per cent.

While the rate of natural increase in New South Wales is low in comparison with that of twenty years ago, it is not exceeded by any country outside Australasia, as will be seen from the following table. The figures represent the birth and the death-rates, and the difference between them (the natural increase) per 1,000 of mean population in each country—for the Australian States and Dominion of New Zealand for 1915 and for the majority of the other countries for 1914.

Country.	Birth-rate.	Death-rate.	Natural Increase.	Country.	Birth-rate.	Death-rate.	Natural Increase.
Tasmania	29·3	10·1	19·2	Hungary (1912) ...	36·3	23·3	13·0
Roumania	42·5	23·8	18·7	Norway	25·2	13·5	11·7
Western Australia ...	27·9	9·3	18·6	Finland (1913) ...	27·1	16·1	11·0
Queensland	29·4	11·0	18·4	Austria (1912) ...	31·3	20·5	10·8
New South Wales ...	28·3	10·5	17·8	Scotland	26·1	15·5	10·6
Jamaica	38·9	21·4	17·5	England and Wales.	23·8	14·0	9·8
Servia (1912)	38·0	21·1	16·9	Chile... ..	37·0	27·8	9·2
New Zealand	25·3	9·1	16·2	Sweden	22·9	13·8	9·1
South Australia ...	26·8	10·7	16·1	Switzerland (1913)...	23·1	14·3	8·8
Netherlands	28·2	12·4	15·8	Belgium (1912) ...	22·6	14·8	7·8
Japan (1911)... ..	34·1	20·4	13·7	Spain,	29·8	22·1	7·7
Victoria	24·6	11·1	13·5	Ireland	22·6	16·3	6·3
Prussia (1913)	28·2	14·9	13·3	Ceylon	38·1	32·2	5·9
Italy	31·1	17·9	13·2	France	18·0	19·6	(—)1·6
Denmark	25·6	12·6	13·0				

From the foregoing figures it may readily be seen that the countries with the highest birth-rate have not necessarily the highest rate of natural increase; and the increase in population depends also upon the death-rate, which is influenced to a considerable extent by the birth-rate.

DEATHS.

During the year 1915 the deaths numbered 19,610, equal to a rate of 10·50 per 1,000 of the population, which is 3·7 per cent. above that of the year 1914, and slightly in advance of that for the decade 1910–14. The total included 11,457 male and 8,153 female deaths, or a ratio for the former of 11·92, and

of the latter of 8·99 per 1,000 living of each of the sexes. The average annual number of deaths from 1870 with the rate per 1,000, in quinquennial periods, is as follows :—

Period.	Average Annual Number of Deaths.			Death-rate per 1,000 of total Population.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
1870-74	4,391	2,948	7,339	15·58	12·32	13·93
1875-79	6,199	4,360	10,559	17·99	15·10	16·67
1880-84	7,286	5,124	12,410	16·55	14·14	15·46
1885-89	8,461	6,043	14,504	15·43	13·36	14·49
1890-94	8,877	6,344	15,221	14·06	11·77	13·01
1895-99	9,002	6,514	15,516	13·11	10·77	12·01
1900-04	9,195	6,733	15,928	12·65	10·17	11·47
1905-09	9,076	6,583	15,659	11·52	9·04	10·33
1910-14	10,598	7,555	18,153	11·66	9·13	10·45
1915	11,457	8,153	19,610	11·92	8·99	10·50

The death-rate has fallen continuously for both sexes, but slightly more for males than for females. The death-rate for males is, however, about one-fourth higher than for females, the reason being that males are exposed to more and greater risks than females, and that male infants are the more delicate. It will be noticed that the death-rate has declined markedly since the period 1890-94, coincidently with the decline also in the birth-rate. The falling birth-rate has influenced the death-rate inasmuch as it has affected the age-constitution of the population by reducing the proportion living at the first five years, at which the mortality is high, and, at the same time, increasing the proportion living at ages from 5 to 20, at which the mortality is low.

A table of the death-rates per 1,000 for each of the Australian States, for New Zealand, and for a number of other countries, during the last six years, is given below for purposes of comparison.

State.	1910-1914.	1915.	Country.	1909-1913.	1914.
Victoria	11·56	11·10	Roumania	25·3	23·8
Queensland	10·34	11·00	Spain	22·9	22·1
South Australia ...	10·36	10·67	Italy	20·0	18·7
New South Wales ...	10·45	10·50	France	18·3	19·6
Tasmania	10·46	10·11	Ireland	16·8	16·3
Western Australia ...	10·01	9·26	Prussia	16·1	...
New Zealand	9·35	9·06	Scotland	15·4	15·5
			Switzerland	15·1	...
			England and Wales ...	14·0	14·0
			Sweden	13·9	13·8
			Norway	13·4	13·5
			Netherlands	13·3	12·4
			Denmark	13·0	12·6

The comparatively favourable health conditions of Australasia will be manifest from an inspection of these rates. New South Wales occupied the fourth place in the list for 1915, with a rate of 10·50, as against the higher rates of South Australia, Queensland, and Victoria; though the parent State does not compare quite so well with New Zealand, Western Australia, and Tasmania.

It might have been expected that the rates of European countries in any case would be higher than those of New South Wales, on account of the larger proportion of old persons in their populations, but it must be remembered also that some of the endemic scourges of the Old World are unknown in Australasia; and that, apart from climatic conditions most conducive to healthful life, and a natural environment that offers no serious menace to longevity, the social and economic status of the great body of the people is far superior to that of Europeans, and their occupations more zealously safeguarded from needless risks by preventive legislation, and by the enforcement of the provisions of many Acts of Parliament dealing with the general health of the community, such as the Public Health, the Dairies Supervision, and the Pure Food Acts, besides regulations framed by Local Government authorities.

DEATHS—METROPOLIS AND REMAINDER OF STATE.

It is not possible to show the exact difference between urban and rural mortality in New South Wales, but an approximate idea may be obtained from a comparison of the experience of the metropolis with that of the remainder of the State, which is, of course, not absolutely rural, as a few large towns are contained therein. Separating the State, however, into these two broad divisions during the year 1915, the record of deaths for the metropolis was 7,603, and for the remainder of the State, 11,421; equivalent respectively to rates of 10·81 and 10·29 per 1,000 of the living; 7,603 deaths in the metropolis, and 11,174 in the remainder of State, corresponding to the rates of 10·26 and 10·05 per 1,000 living respectively. The average annual number of deaths and the rate per 1,000 in each of these divisions since 1880, in five-year periods, is given in the subjoined table.

Period.	Metropolis.		Remainder of the State.		New South Wales.	
	Average Number of Deaths.	Ratio per 1,000 living.	Average Number of Deaths.	Ratio per 1,000 living.	Average Number of Deaths.	Ratio per 1,000 living.
1880-84	5,033	20·60	7,377	13·21	12,410	15·46
1885-89	6,181	19·47	8,323	12·18	14,504	14·49
1890-94	5,979	14·83	9,242	12·05	15,221	13·01
1895-99	5,634	12·30	9,882	11·86	15,516	12·01
1900-04	5,845	11·54	10,083	11·42	15,928	11·47
1905-09	5,979	10·53	9,680	10·21	15,659	10·33
1910-14	7,312	10·81	10,841	10·23	18,153	10·45
1915	8,189	10·81	11,421	10·29	19,610	10·50

The death-rate has improved steadily both for the metropolis and for the remainder of the State, but markedly so for the former, the proportion per cent. being now very little higher than for the latter, whereas thirty years ago it was 50 per cent. in advance. The improvement dates from the quinquennium beginning with the year 1890, and is coincident with the installation of the modern system of sewerage and the enforcement of the provisions of the Dairies Supervision Act of 1886. The emphatic decline in the rates for each division and for the State as a whole is appreciable from the fact that the metropolitan rate for the period 1885-9 was 19·5 per 1,000; and for the year 1915 it was 10·8, or a difference of 46 per cent.; for the same dates the rates for the remainder of the State were respectively 12·2 and 10·3 or a difference of 16 per cent.; and for the whole State, 14·5 and 10·5, or a difference of 28 per cent.

MORTALITY OF INFANTS AND YOUNG CHILDREN.

A further measure of the mortality rates for the metropolis, and for the remainder of the State, which affords a most sensitive test, is obtained by a comparison of the death-rates of infants in each division.

Children under 1 year.

During the year 1915 the children who died before completing the first year of life numbered 3,603, equivalent to a rate of 68·1 per 1,000 births. This rate, which is the lowest on record, is 8 per cent. below the average for the last decade, which included several years of exceptionally low infantile mortality. Male infants died at the rate of 74·6 per 1,000 births, and female infants at the rate of 61·3. To the total the metropolis contributed 1,516 deaths, or 72·6 per 1,000 births, and the remainder of the State 2,087, or 65·2 per 1,000 births.

The following table shows the average annual number of deaths of children under 1 year, in the metropolis and the remainder of the State, and the proportion per 1,000 births in quinquennial periods since the year 1880 :—

Period.	Metropolis.		Remainder of State.		New South Wales.	
	Deaths under 1.	Rate per 1,000 Births.	Deaths under 1.	Rate per 1,000 Births.	Deaths under 1.	Rate per 1,000 Births.
1880-84	1,707	174·0	1,956	94·9	3,663	120·4
1885-89	2,168	164·6	2,256	95·2	4,424	120·0
1890-94	1,908	138·8	2,471	95·8	4,379	110·7
1895-99	1,646	134·4	2,572	103·7	4,218	113·9
1900-04	1,416	111·2	2,399	96·9	3,815	101·7
1905-09	1,255	86·7	2,035	74·5	3,290	78·7
1910-14	1,437	75·2	2,211	71·1	3,648	72·7
1915	1,516	72·6	2,087	65·2	3,603	68·1

The improvement in the infantile mortality rate for the metropolis is partly due to the measures adopted to combat preventable diseases. A scheme for the preservation of infant health was formulated by the Sydney Municipal Council in 1903, and instructional pamphlets were circulated for the guidance of mothers in the care and feeding of young children. In the following year trained women inspectors were appointed to visit mothers in the populous parts of the city and in the surrounding suburbs. Further efforts to reduce infantile mortality led to the establishment of Baby Clinics in Sydney and Newcastle in 1914. The Notification of Births Act, 1915, enables the health authorities to obtain early knowledge of the birth of a child and empowers them to bring infants under their supervision immediately after birth, when preventive measures are most efficacious for the accomplishment of beneficent results. Details regarding the Baby Clinics will be found in a later chapter.

Of the total number of deaths of infants under 1 year of age, about one-third die within a week of birth; by the end of the first month the proportion is over two-fifths; and by the end of three months, three-fifths. Approximately, one child in every 45 born dies within a week of birth. The following statement shows for 1915, in comparison with the average of the preceding quinquennium, the deaths per 1,000 births during each of the first four weeks after birth, and then for each successive month. The experience in the

metropolis is distinguished from that in the remainder of the State; the sexes are taken together, and, for the year 1915, illegitimate children are distinguished from legitimate for the State as a whole.

Age.	Metropolis.		Remainder of State.		New South Wales.			
	1910-14.	1915.	1910-14.	1915.	1910-14.	1915.		
						Legitimate.	Illegitimate.	Total.
Under 1 week	22.9	26.1	21.9	24.5	22.3	24.3	40.3	25.1
1 week	4.4	3.1	4.0	4.0	4.2	3.6	4.5	3.6
2 weeks	2.5	2.5	2.9	2.1	2.7	2.1	5.2	2.3
3 „	2.3	1.7	2.2	1.6	2.2	1.6	2.6	1.7
Total under 1 month	32.1	33.4	31.0	32.2	31.4	31.6	52.6	32.7
1 month	6.8	5.7	6.4	5.3	6.6	5.1	11.9	5.4
2 months	5.1	4.2	4.9	3.8	5.0	3.5	11.9	4.0
3 „	5.5	4.2	4.4	3.0	4.8	2.8	16.8	3.5
4 „	4.5	3.4	4.5	2.9	4.5	2.8	9.3	3.1
5 „	3.9	3.0	3.6	2.6	3.7	2.4	9.0	2.8
6 „	3.4	3.9	3.5	2.8	3.4	3.0	7.8	3.2
7 „	3.4	3.7	2.9	2.8	3.1	3.0	4.8	3.1
8 „	2.8	2.3	2.7	2.8	2.8	2.5	4.1	2.6
9 „	2.7	2.8	2.7	2.3	2.7	2.5	3.4	2.5
10 „	2.5	2.9	2.2	2.3	2.3	2.4	6.0	2.5
11 „	2.5	3.1	2.3	2.4	2.4	2.6	3.4	2.7
Total under 1 year ...	75.2	72.6	71.1	65.2	72.7	64.2	141.0	68.1

In the first week of life the mortality is more than five times as great as in the second, and in the second about twice as great as in the fourth. From the first month to the second the mortality falls rapidly; from the second to the twelfth, gradually. Comparing the mortality in the two divisions of New South Wales—the metropolis and the remainder of the State—the usual experience is that at every stage of life children die more quickly in the former. In 1915 the rate per 1,000 births was 72.6 in the case of the metropolis, and 65.2 in that of the remainder of the State. During the previous quinquennial period the metropolitan rate was 6 per cent. higher than that for the remainder of the State.

The table shows a great waste of life among illegitimate children, the mortality under 1 year being 141.0 per 1,000, as compared with 64.2 among legitimate children. The largest proportional excess is not immediately after birth, but about three months later. During the first week the mortality of illegitimates exceeded that of legitimates by 66 per cent.; thereafter it increased until, in the third month, the excess was 500 per cent.; after this it dropped irregularly, until in the tenth month the rates became almost equal.

The following statement furnishes a comparison of the rates of infantile mortality in the Australian States, in New Zealand, and in various other countries; the rates indicate the deaths under one year per 1,000 births :—

State.	1914.	1915.	Country.	1913.	1914.
New Zealand	51·4	50·1	Ireland	97	87
Queensland	63·9	64·0	Netherlands	91	95
Western Australia ..	68·2	66·6	Denmark	94	98
South Australia	76·0	67·3	Ontario, Canada ...	117	103
<i>New South Wales</i> ...	69·7	68·1	England and Wales ...	108	105
Victoria	78·3	68·8	Scotland... ..	110	111
Tasmania	68·6	72·2	Finland	113	...
			Italy	137	...
			Roumania	202	187
			Ceylon	189	213
			Chile	255	286

Of the rates shown in the foregoing table, that for New Zealand is the best; but the rates for Australasia generally are emphatically superior to those prevailing for the years specified in the other countries for which records are available.

Children under 5 years.

There has been a great improvement in the death-rate of children of the first five years of life—an improvement which is most marked in the metropolis, for there the excessive total rate of mortality, as compared with the remainder of the State, was due to the great proportion to births of deaths in this first quinquennial age-group. At every period shown in the subjoined table the metropolitan rate is the higher—in some cases over 50, and never below 7, per cent. in excess.

The following table shows the mortality in each division, in periods of five years since 1890, of children under 5 years of age :—

Period.	Metropolis.		Remainder of State.		New South Wales.	
	Number.	Rate per 1,000 living.	Number.	Rate per 1,000 living.	Number.	Rate per 1,000 living.
1890-94	13,370	48·45	17,728	32·06	31,098	37·52
1895-99	11,027	40·77	17,436	30·97	28,463	34·15
1900-04	9,233	35·17	16,049	29·64	25,282	31·44
1905-09	8,062	27·61	13,612	23·39	21,674	24·80
1910-14	1,895	25·47	2,986	21·77	4,881	23·07
1915	2,187	24·60	2,977	19·95	5,164	21·69

The improvement in the metropolis has been greater than in the remainder of the State, the rate having decreased since 1890 by 49 per cent. in the former, and in the latter by 38. Outside the metropolis the rate did not vary to any significant extent until 1904, when there was a marked decline which has been continuous. During the year 1915 there was a saving of 24 lives in every 1,000 children under 5 years of age in the metropolis, and 11 in the remainder of the State—an appreciable advance on the mortality rate of a quarter of a century ago.

The following table gives, for 1915, and for the quinquennial period preceding, the death-rates of illegitimate children under one and under five years of age, as compared with legitimate children of like ages :—

Age.	Legitimate.		Illegitimate.		Total.	
	Deaths.	Rate per 1,000 living.	Deaths.	Rate per 1,000 living.	Deaths.	Rate per 1,000 living.
Under 1 year—						
1910-14	15,901	67·21	2,338	162·78	18,239	72·68
1915	3,225	64·24	378	140·99	3,603	68·13
Under 5 years—						
1910-14	21,675	21·68	2,732	46·73	24,407	23·07
1915	4,707	20·81	457	38·47	5,164	21·69

The foregoing figures show the poor chance of survival afforded to the illegitimate as compared with that of the legitimate infant, since at each of the ages specified, the death-rate of the former is twice that of the latter; and it is a fact of the utmost gravity that in the year 1915, one-seventh of the children illegitimately born died before completing the first year of existence.

CHILDREN SURVIVING AT THE AGE OF FIVE YEARS.

The tables just given show the death-rates of children under one and under 5. In the next statement will be found, out of 10,000 children born alive, of both sexes, the number living at each period up to five years of age.

The table, which is unadjusted, is based on the experience of the ten years 1906-15. It appears that out of 10,000 boys born, 1,039 will die before reaching 5 years of age, and out of 10,000 girls, 906 will die. Of the number who fail to survive five years, 250 boys and 199 girls die within the first week of birth, and 326 boys and 260 girls within the first month. At the end of the first year there will be 9,193 boys and 9,327 girls surviving.

NUMBER OF CHILDREN LIVING AT EACH AGE OUT OF 10,000 BORN ALIVE.

Age.	Boys.	Girls.	Total.	Age.	Boys.	Girls.	Total.
0 week ...	10,000	10,000	20,000	7 months ...	9,333	9,455	18,788
1 „ ...	9,751	9,901	19,552	8 „ ...	9,298	9,426	18,724
2 weeks ...	9,705	9,765	19,470	9 „ ...	9,268	9,400	18,668
3 „ ...	9,673	9,740	19,413	10 „ ...	9,241	9,372	18,613
1 month ...	9,648	9,720	19,368	11 „ ...	9,217	9,349	18,566
2 months ...	9,573	9,660	19,233	1 year ...	9,193	9,327	18,520
3 „ ...	9,515	9,615	19,130	2 years ...	9,059	9,188	18,247
4 „ ...	9,464	9,567	19,031	3 „ ...	8,999	9,130	18,129
5 „ ...	9,416	9,523	18,939	4 „ ...	8,961	9,094	18,055
6 „ ...	9,375	9,487	18,862				

DEATHS IN QUINQUENNIAL AGE-GROUPS.

In the year 1915 the deaths of persons in quinquennial age-groups were as follow :—

Age-group.	Males.	Females.	Total.	Age-group.	Males.	Females.	Total.
Years.				Years.			
0—4	2,879	2,285	5,164	65—69	809	466	1,275
5—9	239	230	469	70—74	818	619	1,437
10—14	123	116	239	75—79	774	557	1,331
15—19	228	172	400	80—84	556	390	946
20—24	327	282	609	85—89	292	234	526
25—29	377	318	695	90—94	63	77	145
30—34	366	314	680	95—99	24	26	50
35—39	397	299	696	100—117	10	4	14
40—44	416	301	717	Age not stated } (adults)	21	1	22
45—49	520	317	837				
50—54	704	341	1,045	All Ages . . .	11,457	8,153	19,610
55—59	740	393	1,133				
60—64	769	411	1,180				

DEATHS OF CENTENARIANS.

The following return shows, for the years 1906–15, the number of deaths in New South Wales of persons aged 100 years and upwards :—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1906	4	6	10	1911	6	5	11
1907	6	1	7	1912	7	5	12
1908	8	3	11	1913	8	5	13
1909	2	6	8	1914	1	4	5
1910	5	5	10	1915	10	4	14

DEATH-RATES ACCORDING TO AGES.

The age and sex distribution of a population are most important factors in determining the death-rate; for instance, the rates at ages 5 to 50 are lower than for the whole population, so that a country with a high proportion at those ages, as in the case of New South Wales, might expect to have a low death-rate. Moreover, a country having a high proportion of females will most likely have a death-rate which compares advantageously with a country having a low proportion of females.

The following tables present an accurate comparison of the mortality rates per 1,000 of both sexes in the principal age-groups during the five decennial periods from 1861 to 1910, and for the year 1911 :—

Age-group. ¹	1861-70.	1871-80.	1881-90.	1891-1900.	1901-10.	1911. (Census Year.)
MALES.						
Years.						
0—4 ...	48·16	45·73	44·57	37·65	27·90	23·08
5—9 ...	5·62	4·67	3·62	2·88	2·07	2·00
10—14 ...	3·34	2·84	2·44	2·08	1·78	1·68
15—19 ...	4·36	4·17	3·74	3·13	2·85	2·33
20—24 ...	6·67	5·30	5·83	4·38	3·67	3·30
25—34 ...	9·25	7·41	7·72	5·88	4·51	4·35
35—44 ...	13·29	12·67	10·02	9·13	7·46	7·09
45—54 ...	21·03	19·10	17·65	14·69	12·87	12·17
55—64 ...	35·62	35·31	30·46	29·05	24·95	25·51
65—74 ...	70·42	70·98	63·67	56·58	58·77	58·40
75 and over ...	153·10	165·95	149·36	148·98	142·43	150·35
All Ages ...	17·89	16·90	15·62	13·43	11·77	11·54
FEMALES.						
Years.						
0—4 ...	42·61	40·75	40·47	32·98	24·21	19·25
5—9 ...	5·43	4·09	3·29	2·77	1·88	1·63
10—14 ...	2·87	2·50	2·18	1·77	1·58	1·24
15—19 ...	3·81	3·82	3·52	2·80	2·53	1·94
20—24 ...	5·54	4·99	5·40	4·12	3·59	3·00
25—34 ...	7·54	7·59	7·44	5·70	4·71	4·20
35—44 ...	10·88	11·47	9·95	8·04	6·82	5·77
45—54 ...	15·71	14·11	13·83	10·86	9·50	9·21
55—64 ...	27·33	26·93	23·12	21·16	18·24	18·40
65—74 ...	57·68	57·08	52·73	43·48	45·91	46·86
75 and over ...	135·98	142·49	135·66	134·14	123·05	131·27
All Ages ...	14·61	14·04	13·47	11·02	9·47	9·02
TOTAL.						
Years.						
0—4 ...	45·41	43·26	42·56	35·35	26·08	21·20
5—9 ...	5·52	4·38	3·46	2·83	1·98	1·82
10—14 ...	3·10	2·67	2·32	1·93	1·68	1·46
15—19 ...	4·08	3·99	3·63	2·97	2·69	2·13
20—24 ...	6·13	5·15	5·63	4·25	3·63	3·16
25—34 ...	8·54	7·48	7·60	5·83	4·60	4·28
35—44 ...	12·36	12·20	10·53	8·67	7·17	6·47
45—54 ...	19·09	17·20	16·19	13·11	11·42	10·87
55—64 ...	32·86	32·15	27·62	25·83	22·04	22·51
65—74 ...	66·40	66·10	59·39	51·22	53·22	53·18
75 and over ...	147·66	157·82	144·15	142·68	133·72	141·23
All Ages ...	16·42	15·59	14·65	12·31	10·67	10·34

At all ages the rate markedly decreased, slowly for the first thirty years, and rapidly during the last twenty. Over the whole period the decline for all ages reached 37 per cent. At age 35 it was over 50 per cent., namely, 67 per cent. at ages 5-9; 53 per cent. at ages 0-4; 53 per cent. at ages 10-14;

48 per cent. at ages 15-24; and 50 per cent. at ages 25-34. At ages 35-75, the decline was 48 per cent. in the first group (35-39), and 20 per cent. in the last (70-74).

Comparing both sexes, it will be seen that the male rate was higher than the female in every age-group shown, the only exceptions being in the periods 1871-80 and 1901-10, when the female rate was slightly in excess at the child-bearing ages 25-34 years. The female rate exhibits an improvement over the male, according to the figures of the following tables, which show the rates for each period compared with those in 1861-70, at which decennium the rate for each age-group is taken as 100.

Age-group.	1861-70.	1871-80.	1881-90.	1891-1900.	1901-10.	1911.
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MALES.

Years.						
0-4 ...	100	95	92	78	58	48
5-9 ...	100	83	64	51	37	36
10-14 ...	100	85	73	62	53	50
15-19 ...	100	96	86	72	65	53
20-24 ...	100	79	87	66	55	50
25-34 ...	100	80	83	64	49	47
35-44 ...	100	95	82	69	56	53
45-54 ...	100	91	84	70	61	58
55-64 ...	100	99	85	82	71	72
65-74 ...	100	101	90	80	83	83
75 and over ...	100	108	97	97	93	98
All Ages ...	100	94	87	75	66	65

FEMALES.

Years.						
0-4 ...	100	96	95	77	57	45
5-9 ...	100	75	61	51	35	30
10-14 ...	100	87	76	62	55	43
15-19 ...	100	100	93	74	66	51
20-24 ...	100	90	97	74	65	54
25-34 ...	100	101	99	76	63	56
35-44 ...	100	106	92	74	63	53
45-54 ...	100	90	88	69	60	59
55-64 ...	100	98	85	77	67	67
65-74 ...	100	99	91	75	80	81
75 and over ...	100	105	100	99	91	96
All Ages ...	100	96	92	75	65	62

TOTAL.

Years.						
0-4 ...	100	95	94	78	57	47
5-9 ...	100	79	62	51	36	33
10-14 ...	100	86	75	62	54	47
15-19 ...	100	98	89	73	66	52
20-24 ...	100	84	92	69	59	52
25-34 ...	100	88	89	68	54	50
35-44 ...	100	99	85	70	58	52
45-54 ...	100	90	85	69	60	57
55-64 ...	100	98	84	79	67	68
65-74 ...	100	100	89	77	80	80
75 and over ...	100	107	98	97	91	96
All Ages ...	100	95	89	75	65	63

In the comparison of the total rates in the preceding tables the changes in the age and sex-constitution of the population have not been considered. For this reason the rate is not now strictly comparable with that of fifty years ago; firstly, because the distribution in the various age-groups has changed with regard to the total rate for each sex, the proportion living at the higher ages having increased, a result which would naturally tend to increase the death-rates; and, secondly, because the sex-distribution has changed, the number of females now being more nearly equal to the number of males, which would tend to improve the rate. Making allowance for these two factors it is found that the improvement in the rate has actually been more than that disclosed by the preceding tables.

Corrected rates for the males and the females, and for the total of both sexes, are shown below. The rates are based on the assumption that the age and sex-distribution was the same at each period as in 1901-10. The decline in the rate as compared with 1861-70 is also shown.

Period.	Rate per 1,000.			Decrease (1861-70=100).		
	Males.	Females.	Total.	Males.	Females.	Total.
1861-1870	18.42	14.91	16.84	100	100	100
1871-1880	17.41	14.33	16.03	94	96	95
1881-1890	16.16	13.66	15.03	88	92	89
1891-1900	13.95	11.35	12.74	76	76	76
1901-1910	11.77	9.47	10.67	64	64	63
1911	11.06	8.54	9.86	60	57	58

INDEX OF MORTALITY.

In order to compare the death-rates of New South Wales with those of the other Commonwealth States on a uniform basis, the death-rate (index of mortality) of each has been calculated on the basis that its population contained the same proportion at each of five age-groups (under 1, 1-19, 20-39, 40-59, and 60 and over) as was contained in the population of Australia as a whole at the census of 1911. Similarly, in obtaining the index of mortality of each capital city, the population of all the capital cities at the census of 1911 was taken as a basis.

The indexes of mortality during 1914 were as follows, the crude rates being also shown for purposes of comparison:—

State.	Index of Mortality.	Crude Death-rate.	City.	Index of Mortality.	Crude Death-rate.
Queensland ...	11.28	11.00	Brisbane ...	13.06	13.48
Victoria ...	10.56	11.10	Hobart ...	12.99	14.77
New South Wales ...	10.49	10.50	Adelaide ...	12.69	13.68
South Australia ...	10.34	10.67	Melbourne ...	12.01	12.63
Western Australia ...	10.22	9.26	Sydney ...	10.80	10.81
Tasmania ...	10.10	10.11	Perth ...	*	*

* Not available.

Sydney has the best index of mortality of all the capitals; but New South Wales holds fourth place with regard to that of the States.

CAUSES OF DEATH.

At a conference of Australian Statisticians in 1906 it was agreed to adopt the Bertillon classification, and causes of death in New South Wales are now tabulated according to that classification. Formerly the system adopted in this most important section of vital statistics was that employed by the Registrar-General in England, which differed considerably from th

modern method of classifying, in some cases materially, hence a comparison of results ascertained for the last nine years with those of previous years is somewhat affected by those differences.

The causes of deaths in Sydney and suburbs and in New South Wales during 1913 and 1914, were classified as follows:—

Causes of Death.	Sydney and Suburbs.				New South Wales.			
	1914.	1915.			1914.	1915.		
	Total.	Total.	Males.	Females.	Total.	Total.	Males.	Females.
General Diseases—								
Typhoid Fever	80	83	51	32	250	219	141	78
Malaria	1	2	1	1	3	7	6	1
Smallpox	2	...	...	...	3	1	1	...
Measles	2	175	106	69	19	324	194	130
Scarlet Fever	15	48	20	28	21	97	40	57
Whooping-cough	44	24	12	12	155	63	31	32
Diphtheria and Croup	86	102	50	52	259	272	139	133
Influenza	10	26	16	10	87	132	73	59
Dysentery	7	9	7	2	38	46	35	11
Other Epidemic Diseases	7	17	11	6	31	44	27	17
Septicæmia	14	17	9	8	35	49	29	20
Tetanus	14	10	8	2	38	37	33	4
Tuberculosis—Lungs	432	401	219	182	1,178	1,122	665	457
Other Organs	83	72	35	37	154	145	70	75
General	14	12	5	7	26	30	14	16
Syphilis	28	40	25	15	45	59	36	23
Cancer	668	671	319	352	1,390	1,385	720	665
Rheumatism (acute and chronic)	52	74	25	49	146	187	77	110
Diabetes	84	94	37	57	174	191	90	101
Exophthalmic Goitre	11	14	2	12	22	22	5	17
Anæmia and Leucæmia	89	92	44	48	158	158	80	78
Other General Diseases	59	54	34	20	169	143	100	43
Local Diseases—								
Meningitis	88	109	60	49	185	219	130	89
Diseases of Spinal Cord	75	67	42	25	157	152	98	54
Hæmorrhage, &c., of Brain	344	307	156	151	742	720	394	326
General Paralysis of Insane and Insanity	95	100	63	37	150	175	110	65
Convulsions of Infants	48	49	28	21	169	158	91	67
Other Nervous Diseases	95	88	46	42	191	239	145	94
Acute Endocarditis	48	63	31	32	94	110	59	51
Organic Diseases of Heart	604	704	358	346	1,512	1,656	939	717
Other Diseases Circulatory System	240	220	138	82	489	477	323	154
Bronchitis (acute and chronic)	198	200	91	109	530	539	299	240
Pneumonia, Broncho-pneumonia	455	641	395	246	1,084	1,423	896	527
Other Diseases Respiratory System	108	117	76	41	263	304	205	99
Diseases of Stomach	62	58	30	28	188	153	72	81
Diarrhoea and Enteritis (under 2)	537	538	305	233	1,308	1,201	674	527
" " (over 2)	110	144	64	80	139	421	213	208
Appendicitis	54	59	38	21	143	155	98	57
Intestinal Obstruction	80	79	34	45	178	167	86	81
Cirrhosis of Liver	63	82	57	25	127	150	107	43
Other Diseases Digestive System	113	137	52	85	251	278	135	143
Nephritis (acute and chronic)	487	502	327	175	957	959	647	312
Other Diseases Urinary System	94	96	80	16	220	246	217	29
Diseases of Genital Organs	42	48	...	48	68	73	1	72
Puerperal Condition	125	104	...	104	296	272	...	272
Diseases of Skin and Cellular Tissue	30	48	21	27	97	113	62	51
Diseases of Bones, &c.	4	6	3	3	25	20	17	3
Congenital Malformations	80	77	45	32	178	209	125	84
Diseases of Early Infancy	600	645	337	308	1,535	1,545	838	707
Senility	361	348	176	172	1,241	1,247	721	526
Violence—								
Suicide	118	119	91	28	268	258	208	50
Accident	351	291	209	82	1,119	937	712	225
Homicide	26	30	21	9	45	51	36	15
Not Classed (Open Verdict)	38	28	21	7	75	73	61	12
Ill-defined Causes	31	48	30	18	152	177	132	45
Total,	7,603	8,189	4,461	3,728	18,777	19,610	11,457	8,153

In the following table will be found the principal causes of death arranged in order of fatality, together with the average number of deaths from similar causes during the previous quinquennium, due allowance being made for the increase in population :—

Causes of Death.	Number, 1915.	Average Number, 1910-14.	Causes of Death.	Number, 1915.	Average Number, 1910-14.
1915. 1910-14					
Organic Dis- eases of the Heart ... 1,656 1,734	1,766	1,826	Suicide	258	252
Endocarditis 110 92			Typhoid Fever	219	258
Diarrhœa and Enteritis (under 2 yrs.) 1,201 1,357	1,622	1,698	Meningitis	219	187
Diarrhœa and Enteritis (over 2 yrs.) 421 341			Congenital Malformations	209	166
Pneumonia	1,423	1,104	Diabetes	191	177
Cancer	1,385	1,387	Intestinal Obstruction ...	167	168
Senility	1,247	1,249	Convulsions of Infants ...	158	172
Tuberculosis—Lungs ...	1,122	1,210	Appendicitis	155	143
Premature Birth	959	897	Cirrhosis of the Liver ...	150	138
Bright's Disease (Acute and Chronic)	959	956	Influenza	132	136
Accident	937	1,128	Acute Rheumatism ...	109	93
Hæmorrhage, &c., of the Brain	720	788	Epilepsy	100	81
Bronchitis	539	584	Gastritis	91	123
Congenital Debility ...	366	429	Embolism and Thrombosis	89	115
Puerperal Condition ...	272	316	Whooping-cough ...	63	204
Diphtheria and Croup ...	272	284	Alcoholism	61	72
			Syphilis	59	60
			Other	3,591	3,130
			All Causes ...	19,610	19,531

It will be seen that the number of deaths during 1915 was more by only 79, or .4 per cent., than the total mortality of the previous quinquennium. Compared with the average of the preceding period of five years, two only of the ten most numerically fatal causes showed any marked increase, namely, pneumonia and premature birth. Tuberculosis of the lungs, diarrhœa, organic diseases of the heart, deaths from accident, and brain complaints, all showed varying decreases; cancer, senility, and Bright's disease remained practically the same. Of the diseases and accidents more specifically infantile, congenital debility, convulsions, diarrhœa and enteritis showed decreases, and malformations and premature birth increases. The rates, however, would appear in a more accurate relationship to the population if the deaths were compared with the persons living of like ages. This basis of comparison is exhibited in subsequent tables.

SMALLPOX.

After a considerable period of immunity, smallpox, of the mildest type, became epidemic in Sydney during the year 1913. In the absence of severe symptoms, the disease escaped detection until it had become distributed throughout the metropolitan area, and thence, in a few instances, to other parts of the State. The total number of cases notified during 1913 was 1,070, of which one only proved fatal. During the year 1914 the notifications numbered 628, and 3 deaths occurred; and in 1915 a total number of 471 cases was attended by a single death.

Vaccination.

Vaccination is not compulsory in New South Wales, and a very small proportion of the people submit voluntarily to the operation, unless an epidemic threatens, when it is endured from sentiments of fear as much as from motives of precaution. This cavalier attitude towards the dread scourge of smallpox may be attributed to a general feeling of security from infection on account of the distance from those countries in which the disease is more or less endemic. The duration of voyages from such places has been considerably diminished, and consequently the risk of sufferers from smallpox entering the State or the Commonwealth undetected by the inspectors of the quarantine department has been greatly increased.

During the year 1913, in consequence of an outbreak of smallpox (practically restricted to Sydney), a popular demand for vaccination became insistent, a number of dépôts were opened, and about 425,000 persons were vaccinated by Government medical officers and by private medical practitioners.

From the date of the Commonwealth's participation in the great war that began on the 4th August, 1914, all members of the Expeditionary Forces from this and the other five States of the Federation were compulsorily vaccinated.

TYPHOID FEVER.

The number of deaths from typhoid fever during the year 1915 was 219, equivalent to 1·17 per 10,000 living, which is 15 per cent. lower than the rate for the period of the previous five years. This is essentially a preventable disease, and does not obtain a foothold where a proper system of sanitation has been installed and ordinary health precautions have been taken. Nevertheless, the rate is still high, though a great improvement has been attained during the three past decades.

The number of deaths and rates since 1884 are stated below.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000
1884-88	1,356	5·12	1,115	5·13	2,471	5·13
1889-93	959	3·11	714	2·74	1,673	2·94
1894-98	1,107	3·27	731	2·46	1,838	2·89
1899-1903	1,054	2·93	733	2·25	1,787	2·61
1904-08	748	1·93	507	1·42	1,255	1·69
1909-13	773	1·76	464	1·56	1,237	1·47
1914	169	1·74	81	·92	250	1·35
1915	141	1·47	78	·86	219	1·17

The decrease between 1888 and 1893 was very marked, and may be traced to the operation of the provisions of the Dairies Supervision Act, which became law in 1889. From that year until 1903 the rate was fairly even, and did not greatly decline, but during the next quinquennium there was considerable decrease in both number and rate of death from typhoid.

The following statement shows the rate of the metropolis and of the remainder of the State during the last twenty-two years. Owing to a superior system of sewerage, and greater attention to sanitary inspection, the rate of the metropolis has always been lower than that of the remainder of the State.

Period.	Metropolis.		Remainder of State.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1894-98	507	2·26	1,331	3·24
1899-1903	426	1·72	1,361	3·12
1904-08	334	1·21	921	1·97
1909-13	363	1·12	874	1·69
1914	80	1·08	170	1·53
1915	83	1·09	136	1·23

Most deaths occur in the summer and autumn. In 1915 there were 82 deaths during the summer months of December, January, and February; and 94 during the autumn months of March, April, and May.

It has been established that inoculation of healthy persons with sterilised typhoid cultures is an effective measure for preventing infection by fever. By this means the case incidence may be reduced by 75 per cent.; and, when the disease does occur among inoculated persons, it takes a milder form, with a considerably lower fatality rate, than in those not so prophylactically protected. The New South Wales Department of Public Health supplies anti-typhoid vaccine to medical practitioners free of cost, and soldiers going abroad on active service during 1914 and 1915 were in all cases inoculated.

Typhoid is a disease of youth and early manhood, and the following table shows, in various age-groups, the death-rate per 10,000 of each sex in decennial periods since 1881 and in 1911 :—

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
0—4...	3·67	1·46	·44	·39	3·76	1·38	·43	·20	3·71	1·42	·44	·29
5—9...	2·60	1·47	·75	·35	2·85	1·37	·76	·24	2·72	1·42	·76	·29
10—14...	2·57	1·94	1·20	·50	4·12	2·12	1·69	·51	3·33	2·03	1·44	·50
15—19...	5·85	4·22	2·71	1·19	7·28	4·20	2·99	1·95	6·56	4·21	2·85	1·56
20—24...	8·41	5·75	4·58	2·59	7·01	3·66	2·83	2·26	7·75	4·72	3·71	2·43
25—34...	7·45	5·02	4·08	2·24	6·34	3·23	1·98	1·27	6·99	4·21	3·07	1·77
35—44...	4·15	3·18	2·63	1·02	4·07	2·16	1·69	·94	4·12	2·75	2·21	·98
45—54...	3·53	1·88	1·94	1·37	3·23	1·37	1·29	·73	3·41	1·67	1·66	1·09
55—64...	3·13	1·20	1·29	1·03	2·98	1·65	·65	·53	3·07	1·38	1·02	·81
65—74...	3·14	1·31	·56	·76	2·82	·79	·73	·91	3·02	1·08	·63	·83
75 and over	2·63	1·08	·24	...	3·43	·49	·15	...	2·93	·83	·20	...
All Ages	4·73	3·00	2·22	1·22	4·73	2·37	1·61	·98	4·73	2·71	1·93	1·11

The rate has steadily declined in almost every age-group throughout each decennial period—the decrease being greater for females than for males.

Among males during the first ten years of life there is not much variation in the rate. After that, it rises progressively to a maximum at ages 20-24, and then declines gradually with advancing age. Experience is similar with respect to females, except that the maximum point is reached at ages 15-19, five years earlier. At ages 5-19 and 65-74 the female rates are slightly higher than male; but at all other ages the male rates predominate.

MEASLES.

During the year 1915 deaths due to measles numbered 324, equal to a rate of 1.73 per 10,000 living. The rate for males was 2.02, and for females 1.43. The following statement shows the deaths from this cause, and the rate per 10,000 living, for each sex, arranged in quinquennial periods since 1884:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	166	.63	165	.76	331	.69
1889-93	393	1.28	369	1.41	762	1.34
1894-98	338	1.00	324	1.09	662	1.04
1899-1903	160	.44	219	.67	379	.55
1904-08	82	.21	107	.30	189	.25
1909-13	309	.71	267	.67	576	.69
1914	5	.05	14	.16	19	.10
1915	194	2.02	130	1.43	324	1.73

The rate in 1915 shows an increase of 158 per cent. as compared with that of the preceding quinquennium. The high rates during the second and third quinquennial periods and for last year were due to severe outbreaks in 1893, 1898, and 1915.

Measles is a disease chiefly affecting children, and is periodically epidemic. It was epidemic in 1898-9, when 719 deaths were recorded; in 1912, when there were 371 fatal cases; and in 1915, which occasioned no fewer than 324. Of the number first cited, 233 were deaths of children under 5 years of age, and 54 were those of children under 1 year old. During the year 1915 deaths from measles of children under 1 year of age bore the proportion of 1 per 1,000 births for New South Wales, the proportions for the metropolis and the remainder of the State being respectively 1.4 and 0.8. Deaths from the same cause, for the same period, of children under 5 years of age bore the proportion of 1 per 1,000 children living of same age-group, for New South Wales; and the proportions for the metropolis and the remainder of the State were respectively 1.6 and 0.6.

SCARLET FEVER.

In 1915 the number of deaths from this disease was 97, equivalent to a rate of 0.52 per 10,000 of the population. The number of deaths in the metropolis was 48, and in the remainder of the State 49—showing respectively rates of 0.63 and 0.44 per 10,000. The rate for 1915 of deaths from this

cause is the highest since 1903, and 420 per cent. above the rate for the preceding quinquennium. Since 1884 the deaths from scarlet fever and the rates for each sex have been as follows :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	287	1·08	342	1·57	629	1·30
1889-93	185	·60	236	·90	421	·74
1894-98	162	·48	218	·73	380	·60
1899-1903	84	·23	114	·35	198	·29
1904-08	88	·23	91	·26	179	·24
1909-13	41	·09	57	·14	98	·12
1914	5	·05	16	·18	21	·11
1915	40	·42	57	·63	97	·52

Like measles, scarlet fever is an epidemic disease which chiefly affects children, the rate generally being somewhat higher for females in a comparison between the sexes. Though not nearly so fatal as formerly, its sporadic recrudescence is stimulating to constant vigilance on the part of the authorities responsible for the health of the State. The death-rate from this cause of mortality has fluctuated since the years 1893 and 1894, when it was very heavy, ranging from ·06 in 1912, to ·63 in 1898.

WHOOPIING-COUGH.

Whooping-cough is another disease which chiefly affects children; and which, like the scarlet fever, evinces a preference in attacking females. During the year 1915 the deaths from this cause numbered 63, of which 31 were of boys and 32 of girls. The rate was ·34 per 10,000 living, which is 69 per cent. below the average of the preceding quinquennium. The deaths and rates for each sex since 1884 are given below :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	327	1·24	472	2·17	799	1·66
1889-93	495	1·61	666	2·55	1,161	2·04
1894-98	343	1·01	502	1·69	845	1·33
1899-1903	573	1·59	726	2·23	1,299	1·90
1904-08	369	·95	445	1·25	814	1·10
1909-13	377	·86	436	1·09	813	·97
1914	67	·69	88	1·00	155	·84
1915	31	·32	32	·35	63	·34

Whooping-cough may justly be regarded as a permanent menace and a constantly recurring ailment of infancy and childhood, for the evidence of the table shows only spasms of declension followed by increases in the death-

rate, which is maintained by epidemic outbreaks, one such occurring in 1907, when 594 cases proved fatal, and the rate was the highest since 1878. Of the children who died in 1915, 31 were under 1 and 58 under 5 years of age.

DIPHTHERIA AND CROUP.

Diphtheria, under which heading membranous croup is included, was the cause of 254 deaths in 1915, while croup, so defined, caused 8. The rate for the total (282) was 1.45 per 10,000 living, or 5 per cent. below the rate for the preceding quinquennium. Metropolitan deaths from these diseases numbered 102; and those in the remainder of the State, 170; the respective corresponding rates per 10,000 living of similar age-classification being 1.35 and 1.53. The following table shows the number of deaths and the rates in quinquennial periods since 1884:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	1,069	4.04	980	4.51	2,049	4.25
1889-93	1,433	4.65	1,399	5.36	2,832	4.98
1894-98	712	2.10	710	2.39	1,422	2.24
1899-1903	310	.86	299	.92	609	.89
1904-08	367	.95	368	.95	705	.95
1909-13	604	1.38	640	1.59	1,244	1.48
1914	121	1.24	138	1.57	259	1.39
1915	139	1.46	133	1.47	272	1.45

The rate was high, and showed little susceptibility towards ameliorative declension until 1893, since which year it markedly improved; so much so, indeed, that in 1908 it was less than one-fourth of the rate for eight years before. During the quinquennium it has tended upwards, that for 1913 being the highest for fourteen years. Nearly 92 per cent. of the persons who died from diphtheria during 1915 were under 10, and about 65 per cent. under 5 years of age.

INFLUENZA.

During the year 1915 there were recorded as due to influenza 132 deaths, equal to a rate of .71 per 10,000, or 3 per cent. below the average of the preceding quinquennium; the rate for males being .76, and for females .65 on a similar basis of comparison. This disease was little known, and few deaths were recorded as being caused by its agency prior to 1891; but in that year it made its appearance in a severely epidemic form, and it has since been always more or less prevalent. The majority of deaths from influenza occur in the four months extending from July to October.

TUBERCULOUS DISEASES.

Of the total deaths in New South Wales during the year 1915 the number set down as being caused by the several classified forms of tuberculous disease was 1,297, or 6.6 per cent. of the actual bill of mortality for the State, and equal to 6.94 per 10,000 living—a rate of 9 per cent. below the average for the preceding quinquennium.

The death-rates from all forms of tuberculosis other than pulmonary are stated hereunder for decennial periods since 1881 and for 1911, the rates per 10,000 of each sex being given in the various age-groups.

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
0—4 ...	24·10	15·93	7·11	3·96	22·10	13·41	5·98	3·79	22·63	14·69	6·55	3·88
5—9 ...	·82	1·64	1·11	·92	·87	1·29	·89	·71	·85	1·47	1·01	·82
10—14 ...	·39	·70	·73	1·86	·46	·80	·67	·38	·42	·75	·70	1·13
15—19 ...	·30	·59	·73	·36	·28	·83	·74	·24	·29	·71	·74	·30
20—24 ...	·48	·75	·71	·45	·46	·89	1·00	·72	·47	·82	·85	·58
25—34 ...	·39	·86	·90	·49	·46	·86	1·13	·67	·42	·86	1·01	·58
35—44 ...	·42	·71	1·08	·84	·17	·73	1·04	·31	·32	·72	1·06	·59
45—54 ...	·42	·74	1·25	·69	·30	·44	·50	·58	·37	·62	·93	·64
55—64 ...	·39	·96	1·39	·83	·61	·70	·69	1·32	·47	·85	1·08	1·04
65—74 ...	·76	·68	1·37	...	·30	1·05	·79	·91	·58	·82	1·12	·41
75 & over	·53	...	1·59	...	...	·24	·75	...	·33	·10	1·21	...
All Ages ..	3·71	2·76	1·70	1·12	3·75	2·62	1·51	·98	3·73	2·69	1·61	1·05

This table shows that the mortality from these diseases in the infantile age-groups was very largely in excess of any other, and that the decrease in the general rate since 1881 is due entirely to the decline in the deaths, at ages under 5 years, from 22·6 per 10,000 in 1881-90, to 6·6 per 10,000 in 1901-10, and 3·9 in 1911.

During 1901-1910 the rate for both sexes fell rapidly from the first to the second age-group, then the male rate decreased slowly to ages 20-24, thence it increased at each age up to 55-64 years. The female rate fluctuated throughout each successive group. After a decline in ages 5-14, it rose to age 34 years, and then again declined, reaching a minimum at ages 45-54. Except at ages 15-34 years, the male rate in each group was the higher. In 1911 the general rate was much lower than in the previous decade.

Tuberculosis of the Lungs.

Tuberculosis of the lungs, or phthisis, was the cause of 1,122 deaths, or 87 per cent. of the number due to tuberculosis during the year 1915, and stands seventh in the order of the fatal diseases of the State. The general mortality rate per 10,000 living was 6·01; the male rate, 6·92; and the female rate, 5·04. For the decade 1876-85, the rate increased from 9·30 in the second to 11·63 in the last year of the series; but in 1886 a decline, slightly interrupted during individual years, set in, and registered in 1915 the lowest rate on record, and a rate, moreover, 48 per cent. below that of 1885, and 7·3 per cent. below the average for the quinquennium preceding. The improvement in the death-rate of the victims of phthisis may be ascribed to increased stringency in the admission of immigrants and visitors; the application, under official supervision, of regulations minimising the dangers of phthisic infection attending certain industries; and to the extension of the remedial, precautionary, and curative methods which have been formulated and introduced as results of the modern school of investigation, research, and experiment.

The table below shows the deaths from tuberculosis of the lungs and the rates for each sex since 1884.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,132	11·83	2,022	9·30	5,154	10·69
1889-93	3,269	10·61	1,925	7·38	5,194	9·13
1894-98	3,191	9·43	1,983	6·68	5,174	8·15
1899-1903	3,322	9·24	2,304	7·08	5,626	8·21
1904-08	2,985	7·72	2,184	6·13	5,169	6·96
1909-13	3,203	7·29	2,281	5·68	5,484	6·52
1914	752	7·75	426	4·83	1,178	6·36
1915	665	6·92	457	5·04	1,122	6·01

In 1912 an advisory board was appointed to assist the Government in its efforts to combat the national menace of tuberculosis. Particulars relating to the operations of this Board and to matters dealing generally with the treatment, cure, and prevention of the disease are given in the chapter on Social Condition. The decrease in the number of deaths from phthisis and other forms of tuberculosis may, to a large extent, be ascribed to the effect of the Acts relating to the supervision of dairies (1886); of diseased animals and meat (1892); the maintenance of public health (1896); and the inspection of foods sold for human consumption (1908). The Board of Health was empowered thereby to supervise dairies and dairy products, and to prohibit the sale of tuberculous meat. The powers conferred by the Pure Food Act of 1908 made the finding of a diseased cow in a dairy herd *prima facie* evidence that her milk had been sold for food, and provided for prosecution for selling diseased milk.

The following table shows deaths and rates of phthisis mortality for the metropolis and the remainder of the State. In the quinquennial period 1894-98, the rate for the former was 47 per cent. higher than that for the latter division; but since that period the extra metropolitan rate has fluctuated but little, while, owing to the progressive establishment of hospitals for the treatment of consumptive patients, that of the metropolis itself has markedly improved, the decline amounting to 48 per cent.

Period.	Metropolis.		Remainder of State.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1894-98	2,302	10·26	2,872	6·99
1899-1903	2,490	10·03	3,136	7·18
1904-08	2,184	7·89	2,985	6·40
1909-1913	2,171	6·70	3,335	6·45
1914	432	5·83	746	6·71
1915	401	5·29	721	6·49

Pulmonary tuberculosis is a notifiable disease within the City of Sydney, and in the area controlled by the Hunter District Water Supply and Sewerage Board. The compulsory observance of health regulations, the ventilation of business and residential buildings and places of amusement, the destruction in recent years of very many unhealthy tenements, the abolition of congested areas, the re-alignment of streets on a more generous scale, and the creation of broad new thoroughfares, have resulted in the disappearance of a number of those urban conditions favourable to the culture of a disease like phthisis; but it is matter for regret that late years have witnessed a growing encroachment upon the area devoted to

recreation reserves, public parks and gardens, and children's pleasaunces, which should be rigidly conserved as the lungs of the metropolis, and of its immediate environment, and such breathing spaces should not be diverted to merely utilitarian purposes.

A comparison of the rates of death from phthisis in New South Wales, according to age and sex, for each decennial period since 1881 and for 1911 is supplied in the following statement, the rates being per 10,000 living in each group:—

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
0—4 ...	2.32	1.06	1.17	.39	2.27	.97	.97	.80	2.20	10.1	1.07	.59
5—9 ...	.71	.34	.31	.35	.77	.57	.39	...	.74	.45	.35	.16
10—14 ...	.62	.54	.52	.75	1.74	1.08	1.07	.63	1.17	.81	.79	.69
15—19 ...	5.15	3.57	2.86	1.31	7.17	4.71	5.30	4.02	6.15	4.14	4.07	2.65
20—24 ...	14.62	10.69	7.97	6.65	13.97	9.64	8.94	6.55	14.31	10.17	8.45	6.61
25—34 ...	20.95	15.68	11.35	10.43	19.07	13.75	11.16	10.68	20.16	14.81	11.26	10.55
35—44 ...	21.99	18.28	14.79	13.36	18.02	13.39	11.90	10.07	20.40	16.22	13.48	11.82
45—54 ...	23.43	19.04	16.56	14.99	16.54	10.84	9.76	7.16	20.80	15.67	13.63	11.55
55—64 ...	19.40	21.98	17.44	19.23	12.72	11.17	10.15	8.73	16.81	17.60	14.28	14.63
65—74 ...	17.44	17.09	17.02	14.75	10.22	7.62	9.07	11.89	14.61	12.97	13.59	13.45
75 and over	6.04	4.67	7.45	8.51	7.28	2.44	4.64	3.46	6.51	3.73	6.19	6.24
All Ages...	11.83	9.63	8.06	7.48	9.19	6.77	6.48	5.67	10.64	8.30	7.31	6.61

The decline in mortality from phthisis has been general in all age-groups, but was greatest between the first and second decennial periods shown above.

Of the 1,122 persons who died from phthisis in 1915, 744 were born in Australia. Of the remainder, 95 had been resident in the Commonwealth less than five years, 68 from five to twenty years, and 184 for more than twenty years. In 31 instances neither birth-place nor length of residence was stated.

The following is a comparison of death-rates from phthisis in various countries. The rates are stated per 1,000 of total population, and thus do not take account either of age or sex, which are material factors. This omission makes the comparison more favourable to New South Wales and other Australian States, because the proportion of aged persons in the Commonwealth is smaller than in the countries of the Old World. There is possibly also a variation in the methods of classification of deaths in the various countries.

Country.	Death-rate per 1,000 of Total Population.		Country.	Death-rate per 1,000 of Total Population.	
	1909-13.	1914.		1909-13.	1914.
Scotland ...	1.15	1.04	Queensland ...	.56	.45
England and Wales ...	1.05	1.05	Tasmania ...	.59	.49
Netherlands ...	1.15	1.07	New Zealand ...	.55	.60
Spain ...	1.23	1.23	<i>New South Wales</i> ...	.66	.64
Jamaica ...	1.49	1.47	South Australia ...	.76	.65
Switzerland ...	1.53	.....	Western Australia ...	.70	.71
Ireland ...	1.73	1.63	Victoria ...	.82	.74
Norway ...	1.73	.....		

New South Wales, which stands in a mid-position with regard to the States of the Commonwealth, shares with them the advantage of showing a rate lower than that of any of the other countries given; in which countries also, however, it is matter of gratification that the rates of deaths from phthisis are on the decline.

Tuberculosis of Meninges.

During the year 1915 tuberculosis of meninges caused 70 deaths, which is equal to a rate of $\cdot 37$ per 10,000 living. Nearly all the victims were children, 69 per cent. being under the age of 5 years.

Abdominal Tuberculosis.

Included under this heading are deaths due to *tabes mesenterica*, and in 1915 the number recorded was 35, of which 27 were those of females. The rate shown was $0\cdot 19$ per 10,000 living. The disease is confined chiefly to children, and of those who died during the year, 13, or 37 per cent., were under 5 years of age. There were 41 deaths in 1914, of these 19, or 46 per cent., were children under 5 years of age.

Other Tuberculous Diseases.

To tuberculous diseases other than those above specified were due 70 deaths, or a rate of $\cdot 33$ per 10,000 living.

CANCER.

In 1915 the deaths from cancer numbered 1,385, equal to a rate of $7\cdot 41$ per 10,000 living, and equal to the average of the quinquennial period preceding. The total included 720 males and 665 females, the rates being $7\cdot 49$ and $7\cdot 33$ per 10,000 living of each sex respectively.

The following table shows the deaths and rates per 10,000 living of each sex since 1884 :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	859	3·25	732	3·37	1,591	3·30
1889-93	1,262	4·10	1,038	3·93	2,300	4·04
1894-98	1,719	5·09	1,387	4·68	3,106	4·89
1899-1903	2,295	6·38	1,877	5·77	4,172	6·09
1904-08	2,671	6·91	2,418	6·73	5,089	6·85
1909-13	3,362	7·66	2,860	7·12	6,222	7·40
1914	732	7·54	658	7·46	1,390	7·50
1915	720	7·49	665	7·33	1,385	7·41

In New South Wales the male rate is usually the higher, which is contrary to the experience of the United Kingdom.

The ages of the 1,385 persons who died from cancer during 1915 ranged from 2 months to 102 years, but the disease is essentially one of advanced age, 96 per cent. being 35 years and over.

The following table shows for each sex the death-rate per 10,000 in age-groups after 25 years, during each decennial period since 1881, and for the year 1911 :—

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
25-34 ...	·75	·94	·89	1·19	1·36	1·24	1·37	1·42	1·01	1·07	1·12	1·30
35-44 ...	2·88	3·63	3·93	4·55	5·25	6·79	7·16	6·50	3·82	4·96	5·39	5·46
45-54 ...	9·36	12·13	12·53	14·19	14·63	17·93	19·21	20·03	11·37	14·52	15·41	16·75
55-64 ...	11·95	30·36	34·96	35·56	22·88	33·20	36·54	33·35	21·09	31·52	35·65	34·59
65-74 ...	34·78	51·32	72·00	74·14	31·85	43·00	62·06	58·98	33·63	47·18	67·71	67·27
75 and over	41·24	63·78	86·36	88·89	35·97	62·95	79·98	101·51	39·24	63·43	83·49	94·52
All Ages...	3·24	4·99	6·90	7·68	3·19	4·77	6·62	7·13	3·22	4·88	6·77	7·42

Since 1881-90 the death-rates from cancer have more than doubled for both sexes, and have risen constantly for every age-group of each decennial period. It has been stated that the more skilful diagnosis of late years, especially of internal cancer, may account partly for the increase, though to what extent it is impossible to affirm; but it is evident that the spread of cancer is a serious reality.

The rate is the lowest in the earliest age-group shown above, and rises steadily with increasing age, the rate for the total of the sexes in 1901-10 being 1·12 per 10,000 at ages 25-34, as compared with 83·49 at ages 75 and over. Up to age 64 years the female rate is higher than the male, but over that age the mortality is greater amongst males. Comparing the rates in 1911 with those of the period 1901-10, every group of males shows an increase, but the female rates were slightly lower at ages 35-44 and 55-74 years.

Cancer is probably the most feared of all diseases, inasmuch as no specific remedy is known, and in all countries for which records are kept the death-rate is increasing. Only a few years ago it was hoped that treatment by violet rays, by radium, and by other chemical means, would abate this scourge of modern civilization; but all these hopes have been disappointed in the test of experience, and the most sanguine expectations have been abandoned. In the following table the rates, based on the whole population, are given for certain countries. The comparison is uncorrected for age-incidence, and is therefore somewhat crude, but it apparently favours the Australian States.

Country.	Death-rate per 1,000 of Total Population.		Country.	Death-rate per 1,000 of Total Population.	
	1909-1913.	1914.		1909-1913.	1914.
Jamaica	·18	·18	Western Australia ...	·59	·50
Spain	·53	·56	Queensland	·64	·66
Italy	·66	...	Tasmania	·65	·73
Prussia	80	...	New South Wales ...	·74	·75
Ireland	·84	·87	New Zealand	·77	·79
Norway	·97	...	Victoria	·83	·83
England and Wales ...	1·00	1·07	South Australia ...	·79	·85
Netherlands	1·07	1·07			
Scotland	1·06	1·13			
Switzerland	1·26	...			

Six of the foregoing States and countries, three of which are outside the Commonwealth, have rates lower than that of New South Wales; although in each one a tendency is shown towards an increase of the rate.

DIABETES.

The deaths due to diabetes in 1915 numbered 191, equal to a rate of 1·02 per 10,000 living, which is above the average for the preceding quinquennium. The rate for males was ·94 and for females 1·11 per 10,000 living of each sex. Most of the deaths occurred after middle life, 138 being of persons over 45 years of age.

MENINGITIS.

Inflammation of the brain or its membranes caused 219 deaths, equal to a rate of 1·17 per 10,000 living, and 17 per cent. above the average rate for the preceding quinquennial period. The disease is principally one of childhood;

and of those who died during the year, 96, or 44 per cent., were under 5 years of age. Included in the above total are 81 deaths from cerebro-spinal meningitis.

HÆMORRHAGE OF THE BRAIN.

To cerebral hæmorrhage and apoplexy, during the year 1915, were due 611 deaths, of which 343 were males and 268 were females. The rate is 3·27 per 10,000 living, 3·57 for males and 2·96 for females. For each sex the rate is below the average.

The following table shows the number of deaths and rates in sexes of the diseases of cerebral hæmorrhage and apoplexy in quinquennial periods since 1884 :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	778	2·97	467	2·15	1,245	2·58
1889-93	796	2·58	618	2·37	1,414	2·48
1894-98	943	2·79	710	2·39	1,653	2·60
1899-1903	1,050	2·92	788	2·42	1,838	2·68
1904-08	1,303	3·31	1,039	2·91	2,342	3·15
1909-13	1,627	3·71	1,439	3·58	3,066	3·65
1914	345	3·55	297	3·37	642	3·46
1915	343	3·57	268	2·96	611	3·27

CONVULSIONS OF CHILDREN.

Convulsions of children (under 5 years of age) caused 158 deaths during 1915, or ·85 per 10,000 living at all ages, which is 8 per cent. below the average for the previous quinquennium.

Appended is a table showing the deaths and rates in sexes for every fifth year since 1875 :—

Year.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1875	297	9·34	205	7·69	502	8·59
1880	358	9·75	297	8·98	655	9·40
1885	428	8·38	392	9·41	820	8·84
1890	328	5·47	274	5·45	602	5·46
1895	280	4·19	243	4·17	523	4·18
1900	203	2·84	168	2·63	371	2·74
1905	119	1·57	92	1·32	211	1·45
1910	103	12·3	71	·91	174	1·08
1915	91	·95	67	·74	158	·85

This disease is essentially infantile, being limited to children of ages under five years, and the rates would therefore be better stated proportionately to that age-period. Compared on this basis, the deaths during the year 1915 showed a rate of ·66 per 1,000 living, as compared with ·76, the average of the preceding quinquennium. The continuous decline in this cause of infantile mortality is indicative of more definite and exhaustive diagnoses of the diseases of children.

INSANITY.

Insanity is classed as a distinct disease of the nervous system; but of the total number of deaths of insane persons in 1915, only 175 appeared in the

tables as due to that cause (which included general paralysis of the insane), the remainder being assigned to the immediately determining factor in the patient's particular case.

The death-rate of persons dying from insanity, including general paralysis of the insane, per 10,000 living, was 1·14 for males and ·72 for females.

Practically all the persons in New South Wales coming under this classification are under treatment in the various mental hospitals. At the end of 1915 there were 7,063 persons under official control and receiving treatment—a proportion per 1,000 of the population of 3·78, slightly in advance of the average for the preceding quinquennium, which was 3·74.

The percentage of deaths of insane persons in New South Wales is comparatively light. The following table has been computed on the basis of the average number of patients resident in mental hospitals :—

Period.	Males.		Females.		Persons.	
	Deaths in Hospitals for Insane.	Proportion of average number resident.	Deaths in Hospitals for Insane.	Proportion of average number resident.	Deaths in Hospitals for Insane.	Proportion of average number resident.
		per cent.		per cent.		per cent.
1894-98	782	6·86	366	5·18	1,148	6·21
1899-1903	1,021	7·77	465	5·54	1,486	6·91
1904-1908	1,280	8·24	613	6·00	1,893	7·35
1909-1913	1,540	8·56	741	6·24	2,281	7·64
1914	301	7·72	168	6·44	469	7·21
1915	310	7·81	179	6·27	489	7·30

DISEASES OF THE HEART.

Diseases of the heart were the cause of 1,824 deaths, showing a rate of 9·76 per 10,000 living, which was 3 per cent. below the average for the preceding quinquennium. Of the total, 1,041 were of males and 783 of females, the rates being 10·83 and 8·63 per 10,000 living respectively. The deaths and death-rates for each sex since 1884 are shown below.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	2,149	8·12	1,390	6·39	3,539	7·34
1889-93	2,250	7·30	1,357	5·20	3,607	6·34
1894-98	2,434	7·19	1,478	4·98	3,912	6·16
1899-1903	2,917	8·11	1,932	5·94	4,849	7·08
1904-1908	3,791	9·81	2,727	7·65	6,518	8·77
1909-1913	5,054	11·51	3,633	9·05	8,687	10·33
1914	988	10·18	682	7·73	1,670	9·01
1915	1,041	10·83	783	8·63	1,824	9·76

The ages of the persons who died during 1915 ranged up to 93 years, and the great majority of deaths occurred after middle age, 1,503 being those of persons over 45 years of age.

Included in the total deaths the causes classified enumerate pericarditis, endocarditis, organic diseases of the heart, and angina pectoris. The highest number (about one-half of the total) was attributed to "heart disease" without further definition, no particular cardiac lesion being specified. The

apparent increase in mortality due to diseases of the heart is probably the result of more specialised biological knowledge, and the greater attention given to pathological diagnoses. Many deaths formerly recorded as being caused by senile decay would now doubtless be assigned to some cardiac trouble.

The following table shows the rates per 10,000 for males and females in age-groups for decennial periods since 1881, and for the year 1911:—

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
0—4 ...	1.27	1.14	1.13	.77	1.28	.89	.97	1.10	1.28	1.02	1.05	.93
5—9 ...	1.34	.99	1.10	1.16	1.09	.98	1.16	.47	1.21	.99	1.13	.82
10—14 ...	1.73	1.28	1.49	1.74	1.50	1.31	1.84	2.66	1.61	1.30	1.66	2.20
15—19 ...	1.90	1.40	1.92	2.14	2.21	1.66	1.98	2.92	2.05	1.53	1.95	2.52
20—24 ...	2.52	1.42	1.55	2.14	2.47	1.83	1.94	2.26	2.50	1.62	1.74	2.20
25—34 ...	3.61	2.66	2.15	2.10	4.58	2.53	2.53	2.69	4.01	2.60	2.34	2.38
35—44 ...	8.86	5.81	5.46	6.03	7.86	5.63	6.13	4.72	8.46	5.74	5.77	5.42
45—54 ...	17.53	13.36	13.79	14.76	15.98	11.20	11.80	13.74	16.94	12.47	12.93	14.32
55—64 ...	35.37	36.56	35.37	37.63	31.13	25.29	28.72	33.88	33.73	31.96	32.48	35.98
65—74 ...	74.99	69.40	91.84	109.69	60.00	54.65	78.67	95.55	69.12	62.37	86.15	103.29
75 & over	91.41	104.74	178.83	253.42	88.64	89.54	141.23	204.16	90.36	98.30	161.94	231.23
All Ages	7.91	7.31	9.60	11.92	6.02	5.20	7.51	9.66	7.05	6.33	8.60	10.84

The rates given above show that the increase has been in the ages 65 and over, and that it was most marked during the periods 1891 to 1910. The rates do not vary greatly up to 24 years; but they rise steadily after that age. The death-rate for males generally is higher than that for females—a fact due, in all probability, to the risks and shocks to which males are more greatly subjected and exposed. Nevertheless, the rates for the last three years exhibit a declining tendency.

BRONCHITIS.

During the year 1915 bronchitis caused 539 deaths, equal to a rate of 2.89 per 10,000 living, which is 8 per cent. below the mean rate of the preceding quinquennium.

The rate for males was 3.11, and that for females 2.65. Of the total, 212 deaths were due to acute, and 327 to chronic, forms of the disease. Bronchitis affects chiefly the extremes of life, and those who died from this cause in 1915 numbered 125, or 23 per cent., under the age of 5 years, and 354, or 66 per cent., over the age of 65.

PNEUMONIA.

The total number of deaths from pneumonia during 1915 was 1,423, equal to a rate of 7.62 per 10,000 living. This total included 498 deaths which were classified as due to broncho-pneumonia. The male rate was 9.32, and the female 5.81 per 10,000 living of each sex respectively. The rate per 10,000

living, calculated for 1915, is 29 per cent. above the average for the preceding quinquennium. Pneumonia is more fatal to males than to females, and is most destructive in its attacks on young children and adults in the decline of life. The following table gives deaths and rates, according to sex, since the year 1884 :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	2,032	7·68	1,301	5·98	3,333	6·91
1889-93	2,158	7·00	1,373	5·26	3,531	6·21
1894-98	2,514	7·43	1,528	5·15	4,042	6·37
1899-1903	3,191	8·87	2,000	6·15	5,191	7·58
1904-1908	2,816	7·28	1,824	5·12	4,640	6·24
1909-1913	2,983	6·79	1,931	4·81	4,914	5·85
1914	640	6·59	444	5·03	1,084	5·85
1915	896	9·32	527	5·81	1,423	7·62

Most deaths from pneumonia occur in the cold weather, and in 1915 there were 713 deaths, or 50 per cent. of the total, in the four months ranging from June to September.

There has been little reduction in the mortality for some years. There was a drop after 1888, but the rate subsequently increased, with a few fluctuations, to the highest point on record, 9·73 per 10,000 living, in 1902. The general rate since that year has been much lower; that for 1915, the highest for a series of thirteen years, being 22 per cent. below.

The following table shows the rates per 10,000 in age-groups of both sexes from 1881 to 1911 :—

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
0-4	17·97	21·08	21·19	19·21	15·83	17·16	17·70	17·48	16·92	19·15	19·48	18·36
5-9	1·63	1·29	1·31	1·62	1·72	1·20	1·27	1·19	1·67	1·25	1·29	1·41
10-14	1·21	·55	·95	·12	1·02	·93	1·10	1·14	1·12	·74	1·02	·63
15-19	2·33	2·01	2·29	1·66	1·90	1·26	1·49	·24	2·12	1·64	1·90	·96
20-24	3·99	3·08	3·00	2·14	2·63	1·90	1·54	1·19	3·36	2·50	2·28	1·68
25-34	4·90	3·91	3·67	2·80	4·21	2·60	2·30	1·79	4·61	3·32	3·01	2·31
35-44	7·65	6·69	6·06	4·18	5·97	3·97	3·92	3·67	6·98	5·55	5·09	3·94
45-54	12·98	9·61	9·47	7·67	7·35	5·33	4·78	2·78	10·83	7·85	7·45	5·52
55-64	17·00	16·08	16·15	9·72	8·87	10·78	10·19	7·94	13·85	13·92	13·56	8·94
65-74	26·01	28·21	28·47	26·86	22·22	18·66	22·98	17·37	24·53	23·89	26·10	22·56
75 and over	30·21	42·40	46·54	54·84	28·26	35·38	50·32	53·06	29·47	39·42	48·24	54·04
All Ages...	7·77	7·46	7·68	6·63	5·86	5·22	5·50	5·00	6·91	6·42	6·64	5·85

The rate is at a minimum for age-group 10-14 years, after which it rises gradually up to age 35; and then more rapidly in each increasing age-group.

In 1911 all age-groups, except 5-9 years and 75 and over, showed improved rates as compared with the previous decennial period.

DISEASES OF DIGESTIVE SYSTEM.

In 1915 the deaths due to these diseases numbered 2,525, equal to a rate of 13·52 per 10,000 living; the male rate being 14·41, and the female 12·57, as compared with the quinquennial rates of 14·62 and 13·37 respectively. Deaths in this system were caused in the main by diarrhoea and enteritis; but gastritis accounted for 91, including those of 34 children under 5 years of age, and there were also 30 cases of death from gastric ulcer.

DIARRHOEA AND ENTERITIS.

In 1915 these two diseases were the cause of 1,622 deaths, or 8·68 per 10,000 living, the rates for males being 9·18 and for females 8·56 respectively. The general rate was 4·5 per cent. below the average for the preceding quinquennium. The following table gives the deaths and rates of males and females since 1884:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,412	12·89	3,048	14·02	6,460	13·40
1889-93	3,451	11·20	2,851	10·92	6,302	11·07
1894-98	4,042	11·94	3,638	12·26	7,680	12·09
1899-1903	4,422	12·29	3,901	11·99	8,323	12·15
1904-1908	3,714	9·61	3,000	8·41	6,714	9·03
1909-1913	4,257	9·90	3,471	8·65	7,728	9·21
1914	891	9·18	756	8·56	1,647	8·89
1915	887	9·23	735	8·10	1,622	8·68

There was a considerable drop in the rate after 1888, due probably to the beneficent operations of the Dairies Supervision Act. During the next fifteen years there was a gradual increase, followed by a marked improvement in 1904, an improvement which has been consistently maintained.

According to the Bertillon classification, deaths from these diseases are divided into two groups, one including children under 2 years of age, and the other all persons 2 years of age and over. In the first group there were 1,201, or 74 per cent. of the total, and in the second 421.

Of the total deaths from diarrhoea and enteritis, 862, or 22 per cent., occurred in the three summer months of January, November, and December; and 363, or 22 per cent., in the autumn months of February, March, and April. As a rule about 50 per cent. of the deaths occur in the summer quarter of the year; but the mortality from these causes was exceptionally heavy during the November and December of 1915, no fewer than 695 deaths being recorded for these months.

APPENDICITIS.

To this cause 155 deaths were ascribed in 1915, the rate being ·83 per 10,000 living, which is 8 per cent. above the average of the preceding quinquennium. This disease is much more fatal to males than to females, the rate for the former in 1915 being ·83, and for the latter ·71 per 10,000 living.

CIRRHOSIS OF THE LIVER.

In 1915 the deaths from cirrhosis of the liver numbered 150, the rate being ·80 per 10,000 living—8 per cent. above the average for the previous quinquennial period. This disease is more prevalent among males than females—the rate for the former in 1915 being 1·11, and for the latter ·47 per 10,000 living in each sex.

BRIGHT'S DISEASE.

During the year 1915 there were 1,205 deaths due to diseases of the urinary system, of which number 872 were caused by chronic nephritis, or Bright's disease, and 87 by acute nephritis. Taking these two diseases together, the rate was 5·13 per 10,000 living; for males 6·73, and for females 3·44, the general rate being 0·2 per cent. above the mean of the previous quinquennial period. The changes in the rates of Bright's disease and of acute nephritis are shown below.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	626	2·37	386	1·78	1,012	2·10
1889-93	907	2·94	570	2·18	1,477	2·60
1894-98	1,291	3·81	821	2·77	2,112	3·33
1899-1903	1,659	4·61	996	3·06	2,655	3·88
1904-1908	2,056	5·32	1,199	3·36	3,255	4·38
1909-1913	2,649	6·03	1,539	3·84	4,188	4·98
1914	610	6·28	347	3·93	957	5·16
1915	647	6·73	312	3·44	959	5·13

During the whole period covered by the foregoing table the rate both for males and females has been more than doubled. The male rate is about half as high again as the female. Not many persons under 35 die from nephritis, the proportions for 1915 being 14 per cent. for those under 35, and 86 for those over that age.

Since 1881 the rate has steadily risen, the increase being greatest at ages over 45 years. The rates per 10,000 are shown below for males and females in decennial periods since 1881, and in 1911:—

Age-group.		Males.				Females.				Persons.			
		1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.													
0-4	...	1·19	1·31	1·52	·77	1·12	1·44	1·23	·50	1·16	1·37	1·38	·64
5-9	...	·42	·44	·48	·23	·32	·44	·50	·47	·37	·44	·49	·35
10-14	...	·35	·26	·49	·50	·27	·38	·53	·38	·31	·32	·51	·44
15-19	...	·47	·76	·72	·59	·68	·61	·77	·61	·57	·68	·74	·60
20-24	...	·81	1·01	1·04	1·35	1·18	1·26	1·07	1·79	·98	1·13	1·05	1·56
25-34	...	1·76	1·80	1·85	1·82	1·74	2·38	1·74	1·42	1·75	2·06	1·80	1·63
35-44	...	2·94	4·48	4·36	4·55	3·69	4·52	4·12	3·57	3·24	4·50	4·25	4·09
45-54	...	5·41	8·40	9·92	10·99	4·09	6·65	7·98	7·75	4·91	7·68	9·08	9·56
55-64	...	10·58	15·39	20·17	22·12	6·50	10·47	12·83	16·68	9·00	13·39	16·98	19·73
65-74	...	14·67	26·47	40·87	54·84	11·41	15·77	25·06	36·12	13·39	21·71	34·05	46·37
75 and over	...	19·18	29·29	59·12	67·14	6·42	16·59	29·65	40·37	14·33	23·90	45·89	55·08
All Ages...		2·40	3·62	5·16	6·06	1·77	2·63	3·33	3·96	2·13	3·16	4·29	5·05

DEATHS IN CHILD-BIRTH.

In 1915 the number of deaths of women from the diseases of childbed was 272, or a rate of 5·1 per 1,000 births. Of these, 104 were due to puerperal septicæmia, 39 to accidents of pregnancy, and 129 to other puerperal accidents. The deaths resulting from various diseases and casualties incident to child-birth are approximately 6·5 per 1,000 births, or 1 death to every 153 births. During the twenty-two years ended 1915, the deaths were as follow :—

Cause of Death,	1893-1896	1897-1900	1901-1904	1905-1908	1909-1912	1913-1915.	1893-1915.	
							Total Deaths.	Proportion due to each cause.
								per cent.
Accidents of Pregnancy	132	197	176	280	143	119	1,047	16·58
Puerperal Hæmorrhage	142	159	135	106	114	112	768	12·17
Puerperal Septicæmia ...	369	362	378	295	442	342	2,188	34·66
Albuminuria & Eclampsia	100	126	113	141	179	164	823	13·04
Other Casualties of Child-birth	272	279	256	301	219	160	1,487	23·55
Total	1,015	1,123	1,058	1,123	1,097	897	76,313	100·00

Owing to changes in the classification of causes of death, the figures for the last ten years are not comparable on absolutely the same basis as those for previous years, but the differences are slight.

Of the 6,313 women who died from diseases of childbirth during the twenty-three years, 1893-1915, the married numbered 5,684, and the single 630; and as, during this period, there were 893,076 legitimate and 61,602 illegitimate births, reckoning twins and triplets also as single births, it follows that the fatal cases for married women averaged 6·4 per 1,000 births, or 1 in 157, and for single women 10·2 per 1,000, or 1 in 98.

VIOLENCE.

The persons dying during the year 1915 numbered 19,610; and of these, 1,319, or 6·73 per cent., met with violent deaths. The rate, 7·06 per 10,000, was, however, 12·3 per cent. lower than the mean rate for the preceding quinquennium. The mortality rate from violence for males is four times as great as that for females.

In the year 1915 the males thus dying numbered 1,017, or 10·57 per 10,000 living; and the females 302, or 3·33 per 10,000 living.

ACCIDENT.

During the year 1915 the number of fatal accidents was 937, viz., 712 of males and 225 of females, equal to rates of 7·41 and 2·48 per 10,000 living of each sex; and the general rate was 5·02 per 10,000 living. Accidental deaths have always been numerically greater in the ultra-metropolitan area. Of those registered during 1915, deaths from accident in the metropolis numbered 291, and in the remainder of the State, 646. As a general rule, about three-fourths of the accidents occur in the latter division, which contains about five-eighths of the total population.

The number of deaths from accident and the rates since 1884 are shown in the table below.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,550	13·41	944	4·34	4,494	9·32
1889-93	3,666	11·90	966	3·70	4,632	8·14
1894-98	3,498	10·33	1,095	3·69	4,593	5·23
1899-1903	3,432	9·54	1,103	3·39	4,535	6·62
1904-1908	3,143	8·13	1,055	2·96	4,198	5·65
1909-1913	3,891	8·86	1,114	2·77	5,005	5·95
1914	903	9·30	216	2·45	1,119	6·04
1915	712	7·41	225	2·48	937	5·02

Although the accident rate is still high, compared with that of more settled countries, it has decreased, the decline for males being more rapid than for females. For the years prior to 1894 the rates are really slightly lower than are shown in the table, because certain causes formerly classed as accidents now fall into different categories.

The experience of the past quinquennium shows that out of every 1,000 accidents 174 are due to vehicles and horses, 146 to drowning, 130 to burns or scalds, 117 to falls, 105 to railways and tramways, 45 to mines and quarries, and 42 to weather agencies, *i.e.*, excessive cold and heat, and lightning. Among males the greatest number of deaths are due to vehicles and horses; and among females to burns and scalds.

SUICIDE.

The number of persons who took their own lives in 1915 was 258, or a rate of 1·38 per 10,000 living, and about 2 per cent. above the average for the preceding quinquennium. The number of male suicides was 208, or a rate of 2·16 per 10,000 living; and of female, 50, or a rate of 0·55 per 10,000 living—the male rate thus being nearly fourfold that of the female.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	428	1·62	96	·44	524	1·09
1889-93	519	1·68	110	·42	629	1·11
1894-98	679	2·01	169	·57	848	1·34
1899-1903	651	1·81	142	·44	793	1·16
1904-1908	719	1·86	160	·49	879	1·18
1909-1913	857	1·95	238	·59	1,095	1·30
1914	210	2·16	58	·66	268	1·45
1915	208	2·16	50	·55	258	1·38

The means usually adopted by men for self-destruction are shooting, poisoning, cutting, and hanging. Women avoid weapons as a general rule, and have resort mostly to poison. Of every 100 cases of suicide that were consummated during the last quinquennial period 35 were by the agency of poison, 27 by shooting, 16 by cutting, 13 by hanging, and 6 by drowning.

Experience shows that suicidal morbidity is largely influenced by the seasons, as the conduct of male victims clearly exhibits, for they are more prone to self-destruction in the first and last quarters of the year. For the ten years ended 1915 the proportion of male suicides per 1,000 during the first and last quarters of the year was 262; during the second, 233; and during the third, 243. January, February, and December, the three hottest months of the year, have usually the largest record of suicides.

Female suicides, quarter-annually classified for the same period, show the highest proportion during the first quarter of the year, the figures being 278 per 1,000 for the first quarter, 228 for the second, 262 for the third, and 232 for the fourth.

Suicide at ages under 20 is not common, but it afterwards increases with advancing life, and in each quinquennial period. The rates per 10,000 for each sex in age-groups for decennial periods from 1881 to 1911 is shown in the following table:—

Age-group.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
Years.												
15-19 ...	·28	·21	·29	·24	·44	·59	·53	·61	·36	·43	·41	·42
20-24 ...	1·01	1·29	1·18	1·35	·46	·86	·86	·12	·75	1·08	1·02	·75
25-34 ...	2·15	2·06	2·04	2·17	·60	·67	·51	·75	1·50	1·43	1·30	1·48
35-44 ...	2·64	3·78	3·06	3·62	·82	·94	·80	1·15	1·91	2·58	2·04	2·46
45-54 ...	4·25	4·72	3·97	3·89	1·05	·88	·75	·88	3·03	3·14	2·58	2·57
55-64 ...	4·54	6·32	5·55	6·00	·95	1·35	·78	·79	3·15	4·29	3·48	3·71
65-74 ...	5·43	7·39	6·24	3·40	1·19	·79	·51	·91	3·77	4·59	3·77	2·28
75 and over ...	4·47	7·73	4·15	6·62	·86	1·95	·45	1·15	3·09	5·28	2·49	4·16
All Ages ...	1·52	1·93	1·76	1·89	·39	·50	·44	·49	1·01	1·26	1·13	1·22

The rate shows very little variation throughout the period under review, except at the ages 15-19, when the male rate is considerably higher than the female.

SEASONAL PREVALENCE OF DISEASES.

The following tabulation shows the principal diseases and the seasons of the year at which their effects are most fatal to their victims. The figures are based on the experience of the thirteen years, 1903-15, and show the proportion of deaths per 1,000 from the diseases specified for each of the

twelve months of a typical year. In order to make the results of the computation comparable, the returns have been adjusted so as to correct the inequality of the number of days in each month.

Month.	Typhoid Fever.	In- fluenza.	Diph- theria and Croup.	Whoop- ing- cough.	Phthisis.	Pneu- monia.	Bron- chitis.	Diarrhœa, Enteritis, and Dysentery.	Bright's Disease.
January ...	140	40	59	95	79	50	46	145	76
February ..	143	23	70	73	73	43	43	126	73
March ...	145	20	81	66	74	47	43	111	66
April ...	126	34	111	84	81	60	58	107	75
May ...	105	49	118	78	84	73	80	70	84
June ...	71	86	121	66	86	101	117	40	90
July ...	41	113	102	78	90	117	139	30	98
August ...	31	170	84	83	93	135	147	24	97
September.	28	177	77	85	91	128	124	25	94
October ...	26	139	54	93	88	96	83	47	80
November..	47	92	65	89	83	82	69	122	86
December..	97	57	58	110	78	68	51	153	81
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The chief features of the above table are exhibited in the contrast between the figures relating to typhoid fever and diarrhœa and enteritis on the one hand, and influenza, pneumonia, and bronchitis on the other. In the first group the influence of the warm weather is the controlling factor; in the second, the cold. The warmest months in the year are January, February, and December; the coldest, June, July, and August. Phthisis varies little throughout the year, but the rates show that it is more fatal in the colder months. Bright's disease shows likewise a higher mortality during the cold weather.

CAUSES OF INFANTILE MORTALITY.

The mortality of infants in New South Wales has been exceptionally low since 1904. An upward movement in 1907, when the rate was higher than in any of the three preceding years, was followed by a decline in the following year, a decline that was continued until 1911. In 1912 there was a slight increase as compared with the year before, but the rate was considerably lower than the average for the preceding quinquennium, notwithstanding the fact that it was a period of low mortality. In 1913 the rate was 78·3, being 2 per cent. above the average of the previous ten years, and the highest since 1907. In 1914 the rate again declined, and in 1915 it was 68·1 per 1,000 births, the lowest rate recorded, and 8 per cent. below the average for the last decennium.

Children are susceptible to the attacks of disease at the earliest age-periods of life; but the rates for preventable diseases are highest. There is, therefore, no doubt that many children succumb through parental ignorance of the proper food or treatment required. About 1,000 children out of every 10,000 born in New South Wales die before reaching their fifth year.

The death-rate of infants regarded as a general sanitary test, makes the knowledge of what diseases are most fatal to children a matter of the first importance. In this connection, the following statement shows the principal causes of deaths of children—under 1 per 1,000 births and under 5 per 1,000 living—in 1915 and in the five years 1910–14, distinguishing deaths in the metropolis from those in the remainder of State:—

Cause of Death.	Deaths under 1 per 1,000 births.						Deaths under 5 per 1,000 living.					
	Metropolis.		Remainder of State.		New South Wales.		Metropolis.		Remainder of State.		New South Wales.	
	1910–1914.		1910–1914.		1910–1914.		1910–1914.		1910–1914.		1910–1914.	
	1910–1914.	1915.	1910–1914.	1915.	1910–1914.	1915.	1910–1914.	1915.	1910–1914.	1915.	1910–1914.	1915.
Measles	·5	1·4	·4	·8	·5	1·0	·6	1·3	·3	·6	·4	1·0
Scarlet Fever .. ..	..	·1	·0	·0	·0	·0	·1	·3	·0	·1	·0	·2
Whooping-cough	2·4	·7	2·5	·5	2·5	·6	1·0	·3	·8	·2	·9	·2
Diphtheria and Croup ..	·4	·8	·3	·2	·3	·4	·8	·9	·8	·6	·8	·8
Tuberculosis—Meninges..	·5	·3	·2	·2	·3	·3	·4	·3	·2	·2	·3	·2
„ Peritoneum	·2	·1	·3	·0	·3	·1	·1	·1	·1	·0	·1	·1
„ Other Organs	·1	·1	·1	·2	·1	·1	·1	·1	·1	·1	·1	·1
Syphilis	1·1	·7	·3	·4	·6	·5	·3	·2	·1	·1	·2	·1
Meningitis	1·0	·9	1·1	·7	1·1	·7	·5	·6	·5	·2	·5	·4
Convulsions	1·9	1·6	2·9	2·8	2·5	2·3	·6	·5	·8	·7	·6	·7
Bronchitis	1·9	·9	2·6	2·0	2·3	1·6	·6	·4	·8	·6	·7	·5
Broncho-pneumonia ..	8·2	4·1	2·8	2·7	2·9	3·3	1·4	1·8	1·0	1·1	1·1	1·4
Pneumonia	1·4	1·9	1·7	1·3	1·6	1·9	·8	·9	·7	·8	·8	·3
Diarrhoea and Enteritis ..	23·5	20·2	18·9	15·4	20·6	17·3	7·4	6·3	5·5	5·0	6·2	5·5
Congenital Malformations	2·9	3·5	2·6	3·7	2·8	3·6	·8	·9	·7	·9	·7	·9
Infantile Debility	8·5	7·0	10·1	6·9	9·5	6·9	2·2	1·6	2·3	1·5	2·3	1·5
Premature Birth	17·8	20·0	15·9	18·9	16·6	18·1	4·6	4·7	3·6	3·6	4·0	4·0
All others	7·9	8·3	8·4	10·0	8·2	9·4	3·2	3·1	3·5	3·7	3·4	3·3
Total	75·2	72·6	71·1	65·2	72·7	68·1	25·5	24·6	21·8	20·0	23·1	21·7

The high mortality of infants is due to the deaths of children who are incapacitated, even at birth, either from immaturity or inherited debility, for the struggle for existence. Of children under 1, the deaths from these causes in 1915 were equal to 28·6 per 1,000 births, or 42 per cent. of the total deaths of children at that age. A table already given shows that the mortality during the first month of life is over two-fifths of the total mortality during the whole of the first year, and 86 per cent. of this mortality was due in 1915 to deaths from congenital debility or defects.

Of the deaths of children under one year, diarrhoea and enteritis were responsible to the extent of 17·3 per 1,000 births, and deaths from infectious diseases of 2 per cent. per 1,000, of which measles alone contributed 1 per cent. Respiratory diseases afflict children with fatal results, bronchitis, in 1915, causing 1·6, broncho-pneumonia 3·3, and pneumonia 1·9 deaths per 1,000 births. The death-rate for these respiratory diseases was normal in 1915. Convulsions had a death rate of 2·3; tuberculous diseases of 5; and meningitis (not tuberculous) of ·7 per 1,000 births.

The greater number of fatal cases of children under 5 years of age are due to congenital debility, diarrhoea and enteritis, pneumonia, measles, diphtheria, and convulsions, in the order given.

Deaths of Illegitimate Children.

The following table shows the causes of death of illegitimate as compared with those of legitimate children. The figures represent the deaths of children under 1 year per 1,000 births in New South Wales during the year 1915.

Causes of Death.	Deaths under 1 per 1,000 Births.		
	Legitimate.	Illegitimate.	Total.
Measles	1·0	·7	1·0
Scarlet Fever	·1	...	·1
Whooping-cough	·6	·4	·6
Diphtheria and Croup	·4	·4	·4
Tuberculosis—Meninges	·2	1·1	·3
„ Peritoneum	·1	·4	·1
„ Other Organs	·1	·4	·1
Syphilis	·3	4·5	·5
Meningitis	·7	·4	·7
Convulsions... ..	2·2	4·5	2·3
Bronchitis	1·5	2·6	1·6
Broncho-pneumonia	3·2	4·1	3·3
Pneumonia	1·9	1·5	1·8
Diarrhoea and Enteritis	15·4	52·6	17·3
Congenital Malformations	3·7	2·6	3·6
Infantile Debility	6·3	17·9	6·9
Premature Birth	17·7	26·8	18·1
All others	8·8	20·1	9·4
Total... ..	64·2	141·0	68·1

A greater mortality is characteristic of illegitimate than of legitimate children, because the former are the victims of their resented intrusion into life. Exclusive of diseases inherited from contaminated parents, systematic neglect and organised lack of care are largely responsible for these higher death-rates of the unwanted. Infantile debility, including congenital malformations and premature birth, showed 47·3 per 1,000 births as against the legitimate rate of 27·7. Diarrhoea and enteritis were 52·6 as compared with 15·4; respiratory diseases 8·2 as compared with 6·6, and syphilis 4·5 as compared with ·3. No great difference is, however, exhibited between the legitimate and the illegitimate rates for epidemic diseases.

MINING INDUSTRY.

THE discovery of gold in payable quantities in the year 1851 was a powerful factor in promoting the settlement of population in New South Wales, and consequently in Australia, and during the succeeding decade gold-mining became the leading industry, soon exceeding in the value of production the mining of coal, which previously was the only mineral mined. In the earlier stages of gold-mining, when alluvial deposits were being worked, and diggers could obtain the metal readily, the knowledge of these conditions induced a great influx of population from other countries, and attracted the attention of the resident population from existing industries, so creating a local market for commodities of all descriptions. As alluvial deposits became exhausted, the characteristic fluctuations of the prospecting period gave way to more settled conditions of an industry, offering employment to fewer men and requiring large capital and expensive machinery, which were provided under the direction and control of companies, mainly organised on the liability system; and the surplus population of the early gold-field days was gradually diverted to the development of other industries, such as agriculture, which, with the increased population, became remarkably profitable.

Though gold still occupies a prominent place in the mineral wealth of the State, such metals as silver, lead, tin, copper, and iron now contribute considerably to the importance of metal mining as a primary industry.

GEOLOGICAL SURVEYS.

The geological survey of the State is conducted by the Geological Survey Branch of the Department of Mines. The main objects of its operations are (1) the mapping of the various geological formations, so that geological maps of the State may be prepared, and (2) the examination of the mineral deposits and the preparation of reports for scientific and economic purposes. A new edition of the geological map of the State and detail maps of special areas, in addition to many publications dealing with mineral resources, have lately been issued.

GEOLOGICAL FORMATION.

Particulars regarding the sedimentary rock formations in New South Wales have been given in the section of this Year Book relating to Geography.

MINING AND GEOLOGICAL MUSEUM.

The Mining and Geological Museum, Sydney, contains a large number of exhibits, including a large variety of molybdenite ores. 443 mineral and 261 rock specimens were added during the year 1915. Collections aggregating some 1,300 specimens were supplied to schools. The Australian Museum at Sydney includes amongst its exhibits also a fine collection of minerals and fossils, additions to the number of 1,132 being made during 1915. These Museums are open to the public free of charge.

CHEMICAL LABORATORY.

During the year 1915 the numbered samples received totalled 3,898, and the determinations for various metals, &c., were 4,484. There were 395 analyses, in addition to 45 fireclay tests, 29 porosity tests, and 5 sizing tests, &c.

Assays for gold and silver numbered 3,496; for tin, 130; tungstic acid, 30; and copper, 218.

SUPERVISION AND REGULATION OF MINING, &c.

The Department of Mines of New South Wales, created in 1874, is administered by a Minister of the Crown. The functions of the Department include the general supervision of the mining industry, geological and mining surveys and assays, the examination of coal-fields, the inspection of collieries and mines, the administration of the Prospecting Vote, and legal enactments relating to mining.

Regulations under Mining Acts are made and administered by the Department of Mines; and it will be sufficient here to outline briefly the general conditions under which mining is conducted within the State.

Wardens' Courts.

The Mining Act, 1906, provides for the establishment of Wardens' Courts, and at the end of the year 1915 there were 169 of these Courts in New South Wales. Wardens' Courts are Courts of Record, and are held by a Warden sitting alone. The Courts have jurisdiction to hear and determine all suits relating to the right to possession or occupation of Crown or private land by virtue of a miner's right, a registered share in a claim or lease, application for a lease, or of a license or authority, the right to cut, construct, use, possess, occupy, or hold any interest in any race, drain, dam, or reservoir for mining. The subjects within the jurisdiction of the Courts are defined in the Mining Act and include all matters in dispute in regard to mining operations.

Miners' Rights and Business Licenses.

Authority must be obtained for all operations for the mining of gold or other minerals. A miner's right entitles the holder to occupy Crown land for the purpose of mining for gold or other minerals, to construct works for mining purposes, to conserve water or obtain timber in connection with mining, except within exempted areas, and for residence. A business license entitles the holder to occupy one quarter of an acre of Crown land in a town or one acre outside town boundaries.

A miner's right or a business license may be issued for any period from six months to twenty years, the fees payable being 5s. and 20s. per annum respectively.

Regulations prescribe the areas which may be held as prospecting areas or claims, and the contingent labour conditions; sites for dams or machinery; and provision is made for registration and survey in certain instances, transfer, creation of shares, and all other matters affecting holdings under miner's right or business license.

Holders of miners' rights may obtain authority to prospect upon any Crown land. Such authority is subject to payment of rent; and, upon finding gold or minerals, the holder must report the discovery within fourteen days and may be required to take out a lease.

The following return shows the number of miners' rights issued and fees received during the last five years:—

Year.	Miners' Rights.		Business Licenses.	
	Issued.	Fees received.	Issued.	Fees received.
	No.	£	No.	£
1911	16,822	2,872	1,326	758
1912	17,098	2,850	1,309	701
1913	17,766	2,964	1,039	659
1914	15,417	2,584	996	648
1915	14,141	2,443	849	553

Leases of Crown Lands.

The term "Crown Lands" embraces all lands vested in the Crown or in any trustee or constructing authority for public purposes, all lands held under lease from the Crown (except conditional lease or conditional purchase lease), and any navigable water, road, street, or highway.

Leases of Crown lands are divided into two classes—(a) Mining leases, and (b) leases for "mining purposes."

Mining leases are for either gold or minerals, the annual rent in each case being 5s. per acre, except in the case of leases for coal or shale, which are subject to a rental of 1s. per acre, and a royalty of 6d. per ton on all shale or large coal, and 3d. per ton on all small coal raised. The amount paid as rent may be deducted from the royalty.

Gold-mining leases are limited to 25 acres, mineral leases (other than coal, shale, or opal) to 80 acres, coal or shale leases to 640 acres, and opal leases to 10 acres; and the maximum term for which a lease may be granted is twenty years, with the right of renewal for a similar term.

Under special conditions, where there are exceptional difficulties in mining the land, leases for larger areas may be granted, subject to report by the Prospecting Board. Such special leases are subject to payment of a rent or royalty to be fixed by the Minister in each case.

The definition of "mining purposes" covers all operations in connection with mining, such as erecting buildings or machinery, constructing railways or tramways, conserving water, treatment of tailings, or any other purpose in connection with mining for gold or minerals. These leases for mining purposes are limited to the surface and to a specified depth, and do not authorise the holder to mine for any minerals contained in the land.

Mining on Private Lands.

Holders of miners' rights may obtain from Mining Wardens authority to enter upon any private land to prospect for gold; or upon land granted with the reservation of minerals to the Crown, to prospect for minerals other than coal or shale. The fee for such authority is 5s., and the holder must pay to the owner of the land such rent and compensation for surface damage as the Warden may assess. The holder of a permit may search for the specified mineral on the area granted (not more than 25 acres for gold nor 80 acres for minerals), and may apply for a lease of the whole or any part of the land for any term not exceeding twenty years, with the right of renewal for a like term. The rent to the owner of the land is £1 per acre, payable in respect only of such part of the surface as is granted. A royalty of 1 per cent. on the gross value of the gold and minerals won is payable to the Crown. The owner of private land, or the occupier, with the owner's consent, may obtain authority to enter or lease any area, not exceeding that prescribed for an ordinary lease, and to mine for gold or for any minerals, without any payment of rent or compensation, and such owner or occupier may also obtain a lease of any area not exceeding 640 acres to mine for coal or shale. Such owners' leases are subject to the payment to the Crown of 1 per cent. royalty on gold or minerals, 6d. per ton on large coal or shale, and 3d. per ton on small coal.

The owner of any private land may enter into an agreement with the holder of a miner's right, giving him permission to mine for gold or minerals (if reserved to the Crown) on any area not exceeding that prescribed for an ordinary lease. Such agreement must be submitted for the Minister's concurrence, and is subject to the payment of 1 per cent. royalty to the Crown on all gold or minerals won.

Under special conditions, or where there are exceptional difficulties in mining the land, leases for extended areas may be granted, subject to report by the Prospecting Board.

The Closer Settlement (Amendment) Act, 1909, provides that all grants of land under that Act shall contain a reservation of all minerals in such land. The effect of this provision is to make such lands "private lands" within the meaning of the Mining Act, 1906.

Dredging.

Leases of Crown or of private land may be granted for the purpose of mining for gold or any mineral by dredging, sluicing, or other method. Such leases may cover any area not exceeding 100 acres, and continue for any term not exceeding twenty years, with the right of renewal for a similar term. The lessee is required to employ a certain number of men, and to expend a certain sum in the purchase and erection of machinery and appliances. The rent of Crown land is 2s. 6d. per acre, and of private land such amount as may be assessed by the Warden. A royalty of 1 per centum of the gross value of all gold or minerals won is payable to the Crown. Compensation for surface damage to private land may also be assessed by the Warden.

Labour Conditions.

The minimum of area conditions per man employed are as follow:—

For gold: 5 acres for the first year, and thereafter 2 acres. For minerals other than gold, coal, or shale: 20 acres for the first year, and thereafter 10 acres. For coal or shale: 320 acres for two men.

The Mining Act empowers the Warden to grant suspension of the labour conditions on any lease if the mine is unworkable, or if the lessee is physically or financially unable, for a limited period, to work the mine.

The Minister may grant suspension, for any period not exceeding six months, on the recommendation of the Warden, if the price of the product of the mine be low, or for any other adverse conditions. If a lessee has employed labour in excess of that required by the terms of his lease, he may obtain exemption from labour conditions to the extent of one month in respect of each six months during which excess labour has been employed.

Inspection of Mines.

The inspection of mines and collieries is conducted by Government inspectors appointed under the Mines Inspection and Coal Mines Regulation Acts. The regulations require the certification of managers and engine-drivers and other persons occupying positions of responsibility; restrict the hours of work of underground workers and persons in charge of machinery; and prescribe general regulations for the ventilation and safe-working of the Mines.

Examinations for Mine Managers, &c.

Certificates of competency are issued by the Minister upon the report of the examining boards to managers, under-managers, engine-drivers, and electricians.

The following statement shows the number of certificates, &c., issued during the last three years.

Class of Certificate.	1913.	1914.	1915.	Class of Certificate.	1913.	1914.	1915.
Coal Mines Regulation Act:—				Mines Inspection Act (continued)—			
First-class (Manager) ...	6	1	7	Permits to act as Managers, Section 54 ...	21	7	19
Second-class (Under-Manager) ...	7	3	6	Engine-drivers—			
Third-class ...	...	44	35	Competency ...	269	262	176
Mine Electrician ...	10	5	8	Service ...	25	11	8
Mines Inspection Act:—				Approved under Section 16 ...	71	44	24
Manager—				Licenses to test and examine boilers, Section 46 ...	10	4	9
Competency ...	12	...	6				
Service ...	...	...	1				
Approved under Section 9 ...	5	2	3				

AREA UNDER MINING OCCUPATION.

The area under mining occupation in New South Wales at 31st December, 1915, was approximately 283,049 acres, made up as follows:—

	Acres.
Crown Lands under lease ...	225,513
“ “ “ application for lease ...	5,774
“ “ “ races, machine sites, &c. ...	294
Reserved Lands under authority to mine ...	2,382
Private Lands under application for lease ...	2,862
“ “ “ races, machine sites, &c. ...	87
“ “ “ authority to enter ...	11,182
“ “ “ agreement, Mining on Private Lands Act ...	13,326
“ “ “ agreement, Mining Laws Amendment Act ...	4
“ “ “ agreement, Mining Act, 1906 ...	8,442
“ “ “ permit to remove minerals ...	2,874
Dredging Lands under application for lease ...	1,354
Miners' Right and Business License ...	8,745
Authority to Prospect ...	15
Under application for Authority to Prospect ...	195
Total ...	283,049

The aggregate number of applications received during 1915 by the Department of Mines for leases and authorities to prospect was 1,782, relating to 47,041 acres. Of these, 622 applications, covering 26,169 acres, referred to Crown lands, and 1,160 applications, relating to 20,872 acres, referred to private lands.

The applications approved during 1915 under the Mining Act were as follows:—

Classification.	Applications.	Aggregate Area.	Classification.	Applications.	Aggregate Area.
	No.	Acres.		No.	Acres.
Crown & Reserved Lands—			Private Lands—		
Gold Leases ...	235	1,708	Leases to Mine for gold and other minerals, excepting coal and shale ...	162	1,979
Mineral Leases (coal and shale) ...	20	6,651	Leases to Mine for coal and shale ...	3	106
Other ...	158	3,090	Leases for dam sites, machinery areas, &c. ...	6	77
Sites for dams, &c., mining purposes ...	25	382			
Other than coal & shale ...	11	439			
	449	12,270		171	2,162
Crown, Private, and Reserved Lands—			Total ...	655	16,381
Dredging Leases ...	35	1,949			

PROSPECTING.

In 1878 the Legislature voted a sum of £7,000 to be expended as subsidies to encourage prospecting for gold. In subsequent years further small sums were voted and expended, till in 1887, by resolution of Parliament, an annual vote was established; and in 1889 the conditions of the vote were so amended as to embrace all minerals. The original annual vote was £20,000. For the year 1892, however, it was fixed at £40,000; but thereafter, until 1902, the maximum sum available was £25,000. For the year 1902-3 the amount voted was reduced to £20,000, and further decreased to £15,000 until the year 1914, when £10,000 was available, and a similar amount was available in the year 1915. Since the year 1878 a total sum of £465,189 has been spent in the encouragement of prospecting.

The Prospecting Board, consisting of the Under Secretary for Mines and Government Geologist, as Chairman, the Assistant Government Geologist, the Chief Inspector of Mines, and three Inspectors, the Chief Mining Surveyor, and a Geological Surveyor, deals with all applications for aid, and miners desiring a grant from the vote have to satisfy the Board that the locality to be prospected is likely to yield the mineral sought, and that the mode of operation is suitable for its discovery. Aid given may represent, as the maximum, 50 per cent. of the value of the developmental work done, inclusive of the cost of the necessary implements and materials. Assistance for sinking from the surface is not usually given, applicants being required generally to prove their *bona-fides* by carrying out a certain amount of work unassisted. Miners assisted from the vote are not entitled to claim any reward that may be offered for the discovery of a new gold or mineral field.

Under the regulations governing the distribution of the vote, the amount advanced must be refunded in the event of the discovery of payable mineral by means of the aid granted.

During 1907 provision was made by Parliament, to the extent of £5,000, for the erection of Government crushing batteries; and in 1911 arrangements were made to assist prospectors to erect plants. To procure the erection of a State battery, reasonable evidence must be adduced that the plant can be kept employed, or that there are prospects of new lodes being opened up as a result of the installation.

The proposal to make advances to prospectors to assist them to purchase plants was designed to meet the case of small mine-owners, as, while satisfying their requirements, it would relieve the Government of the cost of operating and maintaining State batteries. Assistance up to 75 per cent. of the cost of the plant and water supply may be advanced, and the prospector's contribution may be made up, either wholly or in part, of labour and material. No interest is chargeable for the advance, but the Government imposes a condition that the prospector shall crush parcels of ores for the public on a specified number of days, the maximum charges being fixed by regulation.

Amount granted to Prospectors.

During 1915 the total amount expended from the prospecting vote was £8,094. Of 408 applications for aid dealt with during the year, 176 were considered as satisfactory.

The following statement summarises the prospecting votes and the amount of the grants made therefrom for the various minerals:—

Period.	Amounts granted to Prospectors for—						
	Gold.	Silver and Lead.	Copper.	Tin.	Coal.	Other Minerals.	Total.
	£	£	£	£	£	£	£
1887-1889	26,332	886	138	34	338	283	28,011
1890-1894	111,878	7,254	1,367	1,261	3,752	3,283	128,795
1895-1900	107,581	4,886	7,762	3,389	.....	4,021	127,639
1901-1905	80,636	5,108	10,136	7,828	40	1,430	105,178
1906-1910	38,822	7,986	20,765	3,146	310	871	71,900
1911	8,470	1,280	2,635	543	.....	451	13,379
1912	7,040	2,429	1,929	1,854	.....	382	13,634
1913	12,405	1,738	1,541	1,194	.....	1,006	17,884
1914	12,057	1,205	995	1,250	.....	614	16,121
1915	10,237	905	1,839	1,029	.....	2,384	16,394
1916	5,548	481	1,148	705	.....	1,395	9,277

No large payable field has yet been discovered through the agency of the prospecting vote; but several rich mines have been opened up with the aid granted, notably the Mount Boppy Mine, which is now the premier gold-mine of the State.

In addition to the employment of labour, the proving of a lode or reef invariably leads to the development of large areas of adjoining land under the Mining Act, from which increased revenue is derived by the State.

BORES AND DRILLS.

Since 1882 boring operations by diamond drills have been conducted by the Department of Mines at minimum charges, in order to encourage the development of the mineral resources of the State.

During 1915 twenty-nine bores were sunk, the total footage bored being 5,586, the greatest, 2,082 feet, being reached at Cumberoona (Murray River Borings).

EMPLOYMENT IN MINES.

The extent to which mining industries provide employment is indicated in the following statement of the approximate number of men employed in the various groups during the last ten years.

Year ended 30th June.	Metalliferous.						Coal and Shale.	Total number of men employed.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Other.	Total.		
1906	8,816	9,414	3,047	3,795	2,275	27,347	15,199	42,546
1907	7,468	10,021	3,764	3,173	1,976	26,402	17,356	43,758
1908	6,363	7,560	2,745	2,456	1,757	20,881	18,084	38,965
1909	5,585	6,207	2,024	2,037	1,983	17,836	18,569	36,405
1910	5,247	7,999	2,286	2,028	1,809	19,369	18,044	37,413
1911	4,650	8,495	2,151	2,225	1,839	19,360	17,657	37,017
1912	3,898	9,062	2,384	2,646	1,817	19,807	18,051	37,858
1913	3,570	9,357	2,629	2,362	1,996	19,914	18,966	38,880
1914	3,443	8,242	1,357	2,168	2,283	17,493	19,977	37,470
1915	2,888	5,564	914	1,648	2,176	13,190	18,221	31,411

These figures do not include persons employed in works manufacturing lime, cement, or coke. The war conditions prevailing throughout the years 1914-15 account for the decrease in the numbers employed in all classes of metalliferous mining.

Metal Mines.

In gold-mining, the decrease in the numbers employed in the last ten years has been most noticeable as regards the alluvial mining:—

Year.	Gold Miners.				Year.	Gold Miners.			
	Alluvial.		Quartz.	Total Persons Employed.		Alluvial.		Quartz.	Total Persons Employed.
	European.	Chinese.				European.	Chinese.		
1906	3,948	307	4,561	8,816	1911	1,706	130	2,814	4,650
1907	3,006	244	4,218	7,468	1912	1,424	58	2,416	3,898
1908	2,640	211	3,512	6,363	1913	1,213	91	2,266	3,570
1909	2,176	208	3,201	5,585	1914	1,250	63	2,130	3,443
1910	2,230	125	2,892	5,247	1915	903	51	1,934	2,888

Coal and Shale Mines.

Coal and shale mines are subject to supervision under the Coal Mines Regulation Act, and during the year 1915 there were 112 coal mines and 7 shale mines, a total of 119 working under the provisions of the Statute. The following statement shows the number of mines in operation during the last ten years in each mining district of New South Wales, and the employees on surface work and underground:—

Year.	Northern.				Southern.				Western.				Total, New South Wales.			
	Mines Operating.	Employees.		Mines Operating.	Employees.		Mines Operating.	Employees.		Mines Operating.	Employees.		Mines Operating.	Employees.		Total.
		Below ground.	Sur-face.		Below ground.	Sur-face.		Below ground.	Sur-face.		Below ground.	Sur-face.		Below ground.	Sur-face.	
1906	73	8,482	2,532	15	2,540	709	23	751	185	111	11,773	3,426				15,199
1907	71	9,697	2,806	17	2,673	739	25	1,187	254	113	13,557	3,799				17,356
1908	80	10,072	3,171	16	2,863	724	24	988	266	120	13,923	4,161				18,084
1909	81	10,102	3,180	19	2,996	819	27	1,112	351	127	14,213	4,356				18,569
1910	98	9,425	3,380	21	3,024	870	29	1,037	308	148	13,486	4,558				18,044
1911	88	8,809	3,583	22	2,995	894	25	1,068	308	135	12,872	4,785				17,657
1912	78	9,238	3,617	18	3,030	923	27	950	233	123	13,278	4,773				18,051
1913	76	9,986	3,523	17	3,299	957	22	971	230	115	14,256	4,710				18,966
1914	76	10,591	3,644	16	3,652	938	19	937	215	111	15,180	4,797				19,977
1915	79	9,347	3,393	18	3,363	906	22	972	240	119	13,632	4,539				18,221

The employment of boys under 14 years of age or of women and girls in or about a mine is prohibited, and restrictions are placed upon the employment of youths. The following statement shows the number of boys between 14 and 16 years of age included in the above table:—

Year.	Northern.		Southern.		Western.		Total.		
	Below ground.	Surface.	Below ground.	Surface.	Below ground.	Surface.	Below ground.	Surface.	Total.
1906	251	261	93	57	6	6	350	324	674
1907	371	277	104	49	14	13	489	339	828
1908	341	314	78	38	9	9	428	361	789
1909	246	285	78	45	26	21	350	351	701
1910	271	246	70	44	22	11	363	301	664
1911	229	234	85	42	19	13	333	289	622
1912	199	235	76	51	16	19	291	305	596
1913	243	230	76	57	25	18	344	305	649
1914	326	232	79	47	19	14	424	343	767
1915	249	257	89	50	31	25	369	332	701

WAGES OF COAL MINERS.

The employees in the Coal-mines in New South Wales work under Agreements or Awards. The rate paid to miners varies according to the selling price of coal per ton ruling at the time, and also according to the conditions of the seams or places where the coal is mined.

Northern District.	Wages.	Southern District.	Wages.
Miners per ton	s. d. 2 7½ to 4 2	Miners per ton	s. d. 2 2½
Coal-cutting machines per day	11 0 „ 12 4	Screened coal „ „	3 1
„ assistants „	s. d. 8 0	Overmen (underground) per day	s. d. s. d. 15 0 to 17 0
Deputies „	s. d. s. d. 13 2 to 14 0	Deputy overmen .. „	12 6
Shot-firers.. .. . „	12 2 „ 13 0	Shiftmen „	s. d. s. d. 10 10 to 13 0
Waste-examiners .. „	12 2 „ 13 0	Onsetters.. .. . „	s. d. 11 4
Engine-drivers— Winding and loco- motive engines .. „	s. d. 12 0	Banksmen „	10 0
Other engines „	s. d. s. d. 10 0 to 11 6	Screenmen „	9 0
Shiftmen per shift	8 6 „ 12 4	Mechanics „	s. d. s. d. 11 0 to 12 6
Wheelers „	8 0 „ 9 1	Engineers „	12 6 „ 16 8
Flatters „	s. d. 8 0	Engine-drivers— Winding and loco. .. per hour	s. d. 1 6
Water bailers	8 0	Haulage „	s. d. 1 4½
Hand-pumpers	8 0	Stokers and firemen .. „	s. d. s. d. 1 1½ to 1 3
Set-riders	10 0	Platelayers per day	8 0 „ 10 0
Rolley-way men	s. d. s. d. 8 0 to 11 0	Furnacemen „	s. d. 8 6
Roadlayers.. .. .	9 0 „ 10 6	Harness-makers	10 0
Waggon packers.. ..	s. d. 8 4	Wheelers „	s. d. s. d. 9 2 to 10 0
Banksmen.. .. .	10 0	Water-bailers „	s. d. 9 3
Shunters	8 0	Stablenien „	s. d. s. d. 9 0 to 10 0
Screenmen	8 0	Labourers „	8 0 „ 9 0
Labourers.. .. .	8 0	Flatters „	9 3 „ 10 10
Boys	s. d. s. d. 3 3 to 6 0	Trappers „	s. d. 3 6
		Boys „	s. d. s. d. 3 3 to 8 0

MINERAL PRODUCTION.

The incompleteness of the statistics of production, as evidenced by the fact that in many instances the export trade is taken as the measure of the output, is to be regretted.

Moreover, the variety of the units of measurement employed in the different branches of the mining industry militates against comparison of the output of the several minerals, except by the standard of value of the products. And, even in measuring the production by the standard of value, it is necessary to remember that these values are taken at different stages of production; for instance, the value of the tin output represents the values of ingots and ore; with some metals also, the export trade, which is accepted as representing the total production, is mainly in ore.

The summary given below shows the value of the production of the various minerals during the last five years:—

Minerals.	Value.				
	1911.	1912.	1913.	1914.	1915.
<i>Metals.</i>	£	£	£	£	£
Gold—domestic ores ...	769,353	702,129	635,703	528,873	562,819
Silver*—Silver Ingots and Matte ...	177,095	251,652	244,321	307,198	322,244
Lead Ore, Concentrates, &c.	2,265,669	3,229,614	3,563,804	2,934,065	2,309,418
Lead*—pig, &c. ...	209,784	264,530	365,742	370,106	689,439
Zinc*—Spelter and Concentrates ...	1,414,980	1,766,242	1,547,987	1,020,711	1,111,569
Copper*—Ingots, Matte, and Ore ...	590,102	579,791	598,733	274,671	234,437
Tin*—Ingots and ore ...	307,089	338,074	421,292	267,130	266,780
Iron—					
Pig-iron ...	145,416	130,708	186,252	254,257	267,000
Iron oxide* ...	2,377	4,763	3,563	5,584	3,774
Ironstone flux ...	861	761	.....	.....	.....
Tungsten—					
Wolfram* ...	29,991	16,584	13,037	14,438	5,031
Scheelite* ...	11,342	4,963	4,457	5,852	4,004
Platinum ...	2,999	3,880	3,135	2,129	476
Molybdenite* ...	2,591	3,706	6,802	11,451	16,937
Antimony Metal and Ore* ...	2,010	355	407	464	12,519
Bismuth Metal and Ore* ...	1,800	1,210	1,202	2,837	4,981
Chrome* ...	300	60	500	649	.....
<i>Non-metals.</i>					
Fuels—					
Coal ...	3,167,165	3,660,015	3,770,375	3,737,761	3,424,630
Coke ...	184,337	162,454	208,989	213,069	313,241
Shale (oil) ...	36,980	34,770	7,339	27,372	12,890
Structural Materials—					
Limestone—flux ...	12,541	11,066	10,686	11,674	15,631
Stone, building* ...	2,417	559	1,156	404	657
Marble ...	1,610	1,340	991	2,180	4,187
Alunite* ...	3,795	13,700	8,940	12,160	5,680
Gem Stones—					
Noble Opal ...	57,300	35,008	29,493	26,534	6,403
Diamonds ...	4,064	2,001	5,141	1,440	707
Grindstones* ...	191	176	170	148	20
Other Minerals and Ores* ...	5,360	8,596	11,189	4,863	7,756
Total ...	£ 9,409,519	11,228,677	11,651,406	10,038,020	9,603,230
Portland Cement ...	315,569	368,280	402,249	415,000	418,583
Lime ...	32,918	44,478	41,428	46,700	42,756

* Exports only.

The production of minerals can be shown to better advantage by the standard of values as given in the previous table. The following return of quantities, in conjunction with values, will prove interesting. The figures are for the years 1914-15:—

Minerals.	1914.		1915.	
	Quantity.	Value.	Quantity.	Value.
<i>Metals.</i>	oz. fine.	£	oz. fine.	£
Gold—domestic ores ...	124,507	528,873	132,498	562,819
Silver*—	oz.		oz.	
Silver Ingots and Matte ...	2,871,559	307,198	3,237,432	322,244
	tons.		tons.	
Lead ore, Concentrates, &c. ...	337,019	2,934,065	282,777	2,309,418
Lead*—pig, &c. ...	25,989	370,106	30,305	689,439
Zinc*—Spelter and Concentrates	359,310	1,020,711	190,916	1,111,569
Copper*—Ingots, Matte, and Ore	6,607	274,671	6,973	234,437
Tin*—Ingots and Ore ...	2,317	267,130	2,188	266,780
Iron—				
Pig-iron ...	75,150	254,257	76,318	267,000
Iron oxide* ...	3,144	5,584	2,294	3,774
Tungsten—				
Wolfram* ...	139	14,438	50	5,031
Scheelite* ...	57	5,852	33	4,004
	oz.		oz.	
Platinum ...	244	2,129	56	476
	tons.		tons.	
Molybdenite* ...	61	11,451	32	16,937
Antimony*—Metal and Ore ...	36	464	637	12,519
Bismuth*—Metal and Ore ...	15	2,837	18	4,981
<i>Non-metals.</i>				
Fuels—				
Coal ...	10,390,622	3,737,761	9,449,008	3,424,630
Coke ...	304,800	213,069	417,753	313,241
Shale (oil) ...	50,049	27,372	15,474	12,890
Structural Materials —				
Limestone—flux ...	51,852	11,674	71,720	15,631
Stone, building* ...	.....	404	.....	657
Marble ...	.....	2,180	.....	4,187
Alunite* ...	3,040	12,160	1,420	5,680
Gem Stones—				
Noble Opal ...	.....	26,534	.....	6,403
	cts.		cts.	
Diamonds ...	1,580	1,440	839	707
Grindstones* ...	.....	148	.....	20
Other Minerals and Ores* ...	.....	5,512	.....	7,756
Total value ...	.....	10,038,020	.....	9,603,230
Other—				
Portland Cement ...	.....	415,000	.....	418,583
	tons.		tons.	
Lime ...	36,207	46,700	33,010	42,756

* Exports only.

The value of the mineral production, exclusive of Portland cement and lime, during 1915 falls short of that of the year 1914 by £434,790. The most notable decreases are in lead ore, concentrates, copper and coal, and they can be directly attributed to the effects of the European war.

The value of the mineral production in quinquennial periods since 1856 is shown in the following table; the figures are exclusive of iron made from scrap, Portland cement, and lime:—

Period.	Value of Production.	Period.	Value of Production.
	£		£
1856-60	6,069,118	1886-90	18,681,548
1861-65	9,980,397	1891-95	26,324,780
1866-70	7,001,454	1896-1900	26,159,491
1871-75	10,768,230	1901-05	29,880,914
1876-80	9,184,015	1906-10	42,450,535
1881-85	12,381,842	1911-15	51,930,852

To the end of 1915 the aggregate value of the metal and mineral output of the State, including iron made from scrap, Portland cement, and lime, exceeded £262,000,000. The following statement shows the aggregate quantity and value to the end of 1915 for each of the minerals:—

Minerals.	Production to end of 1915.	
	Quantity.	Value.
<i>Metals.</i>		
Gold oz. fine	14,405,437	£ 61,190,370
Silver*—		
Ingots and matte oz.	34,498,364	} 67,902,039
Concentrates and ore tons	7,890,988	
Sulphide and silver-lead "	562,976	
Lead*—		
Pig, &c. "	218,040	3,426,198
Zinc*—		
Metal and Concentrates "	3,876,604	11,220,180
Copper*—		
Ingots and Matte "	207,693	} 12,891,943
Ore "	31,421	
Tin*—		
Ingots "	80,886	} 10,282,811
Ore "	31,784	
Iron—		
Pig-iron—from domestic ore "	383,335	1,405,265
Iron oxide* "	32,338	43,669
Ironstone flux "	106,917	81,618
Tungsten ores—		
Wolfram* "	1,673	165,023
Scheelite* "	1,264	115,161
Platinum oz.	13,732	34,750
Molybdenite* tons	476	71,226
Antimony* "	17,345	318,614
Bismuth* "	583	137,557
Chrome* "	31,984	102,617
Cobalt* "	885	8,065
Manganese* "	576	1,662
Quicksilver lb.	2,298	361

* Exports only.

Minerals,						Production to end of 1915.	
						Quantity.	Value.
<i>Non-metals.</i>							£
Coal	...	...	...	...	tons	211,849,775	80,020,454
Coke	...	...	...	...	...	4,033,248	2,873,966
Shale (Oil)	...	...	...	...	...	1,733,942	2,370,433
Limestone flux	...	...	...	...	...	1,290,906	740,805
Stone (Building)*	...	...	...	...	...	.....	26,393
Marble	...	...	...	...	...	.....	30,422
Slates*	...	...	...	...	No.	79,234	1,140
Alunite*	...	...	...	...	tons	45,730	146,323
Noble Opal	...	...	...	...	...	.....	1,392,637
Diamonds	...	...	...	...	cts.	186,963	127,696
Grindstones*	...	...	...	...	...	.....	3,180
Other Minerals and Ores*	...	...	...	...	...	.....	145,407
Total (excl. Iron made from Scrap, Portland Cement, and Lime) £						.....	257,277,985
<i>Other.</i>							
Iron made from Scrap	...	...	...	...	...	.....	1,416,030
Portland Cement	...	...	...	...	...	.....	3,075,516
Lime	...	...	...	...	tons	410,042	408,811

* Exports only.

Measured by the aggregate output, coal is the most valuable mineral in New South Wales, followed closely by silver and gold.

Value of Production per Miner.

Related to the number of men employed, the output in the different branches of mining varies greatly. Following are the average values per head of miners for the last five years:—

Year.	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Coal and Shale.
	£	£	£	£	£
1911	165	479	275	138	182
1912	180	608	243	128	206
1913	178	612	228	178	200
1914	153	562	202	123	199
1915	195	795	259	162	206

As an offset to the relatively high values of silver, lead, zinc, and copper, it is to be noted that these ores require expensive treatment, which compensates the larger output per head as compared with coal, gold, or tin.

VALUE OF MACHINERY.

The following statement shows the estimated value of the plant and machinery used in mining during the years 1912 to 1915:—

Classification.	1912.	1913.	1914.	1915.
	£	£	£	£
Coal and Shale ...	2,890,000	3,209,000	3,409,000	3,526,000
Gold ...	639,459	608,912	653,363	630,138
Silver, Lead, and Zinc...	1,912,754	1,990,230	2,045,439	1,994,339
Copper ...	666,384	762,216	705,654	565,942
Tin ...	189,845	170,817	206,666	251,675
Other Minerals ...	436,376	488,143	524,004	551,007
Total ...	6,734,818	7,229,318	7,544,126	7,519,101

QUARRIES.

The quantities and values of building stone, except stone exported, do not appear in the statements of mineral production, but are given hereunder in the return of quarries for the year 1914-15:—

Description of Quarry.						Quantity of Stone raised.	Value of Stone raised.
Building Stone—						tons.	£
Sandstone	...	...	...	...	...	116,015	47,374
Syenite (Trachyte)	...	...	...	...	...	1,300	1,810
Limestone	...	...	...	...	...	8,287	2,058
Slate	...	...	...	...	...	82	311
Marble	...	...	...	...	...	1,140	2,652
Other	...	...	...	...	...	12,986	13,632
Macadam, Ballast, &c.—							
Sandstone	...	...	...	...	...	130,859	19,444
Bluestone, Basalt, &c.	...	...	...	...	...	530,141	145,324
Limestone	...	...	...	...	...	39,900	8,425
Gravel	...	...	...	...	...	73,410	9,595
Sand	...	...	...	...	...	27,182	2,839
Ironstone	...	...	...	...	...	63,628	11,136
Shale and Clay	...	...	...	...	...	36,066	3,924
Quartzite	...	...	...	...	...	47,921	5,990
Granite	...	...	...	...	...	7,149	1,750
Limestone, crude	...	...	...	...	...	248,110	37,748
Clays—							
Kaolin	...	...	...	...	...	50	25

PRICES OF MINERALS.

In the case of all the minerals which contribute any considerable value to the New South Wales production, prices are regulated by the world's production in relation to the world's demands, as, with the exception of coal, the local demand is small.

Practically the whole of the gold mined in New South Wales and Queensland, and a large proportion of the output of the other Australian States, Papua, and of New Zealand, is sent to the Sydney Mint for melting, assaying, and coining, and is accounted for at the rate of £3 17s. 10½d. per oz. standard, or sovereign gold—22 carats fineness. Pure gold, or 24 carat, is worth £4 4s. 11½d. per oz.

According to the reports of the Royal Mint, in 1890 the price of silver in the London Market was 47¾d. per oz. standard; in 1893, when the Indian mints were closed, the price was 35½d., falling to 29d. in 1894; since 1894 that average has been exceeded only in the years 1895, 1896, 1906, and 1907, when it was slightly over 30d. In 1911 the average for the year was only 24 ⅞d. per oz., in 1912 it was 28 ⅞d., in 1913 it was 27 ⅞d., in 1914 it was 25 ⅞d., and in 1915 the average was 23·67d.

The variations in the price of lead have affected the value of the output. From 1904 nearly to the end of 1907 the price rose with corresponding benefit to the industry; but in 1908 the prices of silver, lead, tin, zinc, and copper dropped considerably. In 1914, consequent on the war conditions, there was a stagnation in the metal markets and a decline in prices, but as will be seen in the subjoined table the prices have since increased.

The prices of copper have shown considerable fluctuation; the average was very low in 1894, and remained unfavourable for some years. Satisfactory prices were obtainable in the periods 1899-1901 and 1905-7, but a decline took place in 1908. During the year 1912 the prices advanced steadily, and the average was considerably higher than in the previous four years, the prices, however, were not maintained during 1914, but became much higher in 1915 and 1916.

The average prices shown in the following table for silver, lead, copper, and tin relate to the f.o.b. prices, Sydney, based on the London prices. In the case of zinc, the averages are those quoted by the Department of Mines in connection with the Broken Hill field:—

Year.	Silver.	Lead.	Zinc.	Copper.	Tin.
	per oz.	per ton.	per ton.	per ton.	per ton.
	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1906	2 6 $\frac{1}{2}$	16 10 0	27 1 4	85 10 0	178 18 4
1907	2 6 $\frac{1}{2}$	18 10 0	25 15 9	85 1 8	170 10 0
1908	2 0 $\frac{5}{16}$	13 1 8	20 3 5	57 18 4	131 5 0
1909	1 11 $\frac{1}{2}$	12 11 3	22 3 0	57 9 2	133 1 8
1910	2 1	12 13 4	23 0 0	56 3 4	153 3 4
1911	2 0 $\frac{3}{8}$	13 3 4	25 3 2	54 18 4	188 1 8
1912	2 4	17 13 4	26 3 4	72 10 0	209 1 8
1913	2 3 $\frac{3}{8}$	18 15 0	22 13 6	68 13 4	202 5 0
1914	2 1 $\frac{1}{4}$	19 1 8	21 0 0	60 16 8	153 0 0
1915	1 11 $\frac{3}{4}$	22 19 2	68 19 7	73 0 0	164 17 1
1916	2 7 $\frac{1}{16}$	31 1 8	71 18 6	115 15 0	181 15 0

In regard to coal, average prices are quoted in connection with the values of production elsewhere in this chapter.

GOLD.

Amongst the metals which occur in the State, gold occupies an important place, both on account of the quantity which has been raised and of the influence of its discovery on the settlement of the country.

The following table shows the quantity and value of the gold produced during each quinquennial period between 1851 and 1915. New South Wales gold which was received at the Sydney Mint for coinage in 1915 amounted to 123,613 oz., of the gross value of £410,254:—

Period.	Quantity.	Equivalent in oz. fine.	Value.
	oz. crude.	oz. fine.	£
1851—1855	1,920,200	1,492,154	6,338,257
1856—1860	1,360,763	1,222,377	5,192,326
1861—1865	2,233,001	2,026,093	8,606,290
1866—1870	1,309,911	1,193,535	5,069,812
1871—1875	1,613,049	1,462,040	6,210,345
1876—1880	640,210	557,076	2,366,310
1881—1885	626,931	549,319	2,333,358
1886—1890	546,954	464,527	1,973,183
1891—1895	1,176,325	1,002,527	4,253,462
1896—1900	1,691,012	1,429,860	6,073,658
1901—1905	1,353,526	1,133,143	4,813,285
1906—1910	1,316,144	1,119,708	4,756,267
1911—1915	910,232	753,078	3,198,877

Prospecting for gold has been neglected owing to the remunerative employment to be obtained in connection with other branches of the mining industries.

The crude quantities of quartz and alluvial gold won during each of the last ten years are estimated as follows:—

Year.	Production.			Year.	Production.		
	Alluvial.	Quartz.	Total.		Alluvial.	Quartz.	Total.
	oz. crude.	oz. crude.	oz. crude.		oz. crude.	oz. crude.	oz. crude.
1906	78,690	223,866	302,556	1911	43,326	171,948	215,274
1907	76,478	212,565	289,043	1912	33,893	166,350	200,243
1908	62,390	199,293	261,683	1913	36,203	147,570	183,773
1909	55,435	182,612	238,047	1914	36,828	112,106	148,934
1910	51,681	173,134	224,815	1915	42,122	119,886	162,008

As before stated, the value of the gold of domestic production received at the Sydney Mint during 1915 was £410,254, representing nearly three-fourths of the gold won in the State. The following return shows the gross weight of the gold received at the Sydney Mint from the more important mining districts during 1915:—

Mining District.				Quantity.	Mining District.				Quantity.
				oz.					oz.
Bathurst	...	...	...	11,640	Southern	...	...	...	13,146
Cobar	...	...	...	59,652	Tambaroora and Turon	...	...	...	6,790
Lachlan	...	...	...	9,387	Tumut and Adelong	...	...	...	8,267
Mudgee	...	...	...	7,907	Other...	...	...	...	1,640
Peel and Uralla	...	...	...	5,184	Total	...	...	...	123,613

Of the aggregate production of domestic ores during 1915, 39,419 oz., valued at £166,796, were obtained from the mines of the Cobar district, as may be seen from the available records of the chief mining districts contributing to the aggregate production during the year:—

Mining District.	Quantities.				Total Value of Gold won.
	Alluvial.		Quartz.	Total Quantity.	
	By Dredging.	Otherwise.			
	oz. crude.	oz. crude.	oz. crude.	oz. crude.	£
Albert ... ..	.....	100	845	945	3,801
Bathurst ... ..	.....	775	3,272	4,047	13,642
Clarence and Richmond	.....	380	71	451	1,471
Cobar ... ..	.....	.....	39,419	39,419	166,796
Hunter and Macleay ...	.....	.....	365	365	1,420
Lachlan	3,751	270	5,820	9,841	38,180
Mudgee	44	479	11,440	11,963	35,788
New England ... ..	.....	60	102	162	556
Peel and Uralla... ..	148	292	1,807	2,247	14,642
Southern... ..	9,375	743	3,031	13,149	50,816
Tambaroora and Turon	1,681	605	4,610	6,896	26,988
Tumut and Adelong ...	7,147	479	3,967	11,593	44,654

The annual gold yield for the Cobar mining district since 1900 is shown below :—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	oz. crude.	£		oz. crude.	£
1900	44,676	157,108	1908	82,474	271,682
1901	42,299	145,146	1909	78,206	246,567
1902	26,956	90,209	1910	68,534	260,254
1903	79,860	266,355	1911	69,054	265,870
1904	69,140	262,213	1912	69,690	283,751
1905	70,109	230,386	1913	70,526	290,761
1906	68,685	224,052	1914	48,997	206,084
1907	58,399	228,981	1915	39,419	166,796

The low yield in 1902 was due to the cessation of work at most of the mines for varying periods on account of drought, and the decreases exhibited in 1904 and subsequent years, as compared with 1903, are attributable to the restricted operations of the Cobar gold-mines, where the number of persons employed was considerably reduced, pending the adoption of new methods for economically treating the gold-copper ore in sight. For this purpose additional machinery was erected, and the result is shown in the increased output since 1908. The figures for the years 1909 and 1913 were affected by the cessation of smelting operations at the Great Cobar mine. The decreased production in 1914 and 1915 was caused by the war and the cessation of production by the Great Cobar mine from the month of April, 1914, was due to the same factor. In connection with the operations of the Cobar mining field, some further details are given in relation to the production of copper, which is the principal metal obtained.

GOLD AND TIN DREDGING.

Development.

During 1899 great interest was displayed in the introduction of dredging, to turn over alluvial flats which, from the point of view of the individual miner, were already exploited. The Macquarie was the first stream on which operations were tried, the success achieved resulting in the extension of operations to the Clarence, Araluen, and other rivers, so that dredging is now in operation on practically all the rivers of New South Wales, which drain auriferous country. In addition to dredging for gold only, as elsewhere in Australia and in New Zealand, the alluvial tin deposits known to exist in New South Wales were exploited also, and the value of stream-tin won annually now exceeds the value of gold recovered by dredging. The Gold and Mineral Dredging Act, passed in the latter part of 1899, assured security of tenure, and greatly facilitated dredging operations over leased areas; and an amending Act passed in 1902 fixed the rental of Crown lands leased for dredging operations at 2s. 6d. per acre per annum, with a tax of 1 per cent. on the net profits of such operations. Thenceforward dredging has maintained its importance as a branch of the mining industry.

At the end of 1915 the total area held for dredging purposes was 8,210 acres.

Gold and Tin Dredging Plants.

Three dredges were at work during 1899, but at the end of 1900, 22 were operating, and applications had been received for 21,331 acres under dredging leases. At the end of 1901 the dredges operating and in

course of construction numbered 43, their value being estimated at £289,333; 40 of them were equipped for gold dredging, 2 for tin dredging, and 1 was arranged to treat both gold and tin. The following statement shows the type, number, and aggregate value of dredges and pumping plants in operation at the end of each of the last ten years:—

Year.	Dredging Plants.				Value of Plants.	Year.	Dredging Plants.				Value of Plants.
	Gold.		Tin.				Gold.		Tin.		
	Bucket.	Pump.	Bucket.	Pump.			Bucket.	Pump.	Bucket.	Pump.	
					£						£
1906	25	11	2	30	315,537	1911	21	14	4	32	388,991
1907	22	10	2	35	335,479	1912	17	11	4	35	355,096
1908	23	8	1	31	345,555	1913	19	12	5	41	330,160
1909	18	13	2	33	309,833	1914	18	8	5	38	339,571
1910	23	15	3	29	364,255	1915	17	5	5	39	327,393

Output of Dredges.

The records of seventeen "bucket" dredges working for gold in 1915 shows that 4,183,397 cubic yards of material were treated, the gold won amounting to 21,668 oz., valued at £85,331, or an average of 2.48 grains, worth 4.89d. for every cubic yard. The records of five "pump" dredges show that 53,603 cubic yards of material treated yielded 193 oz. of gold, valued at £733, or an average of 1.73 grains, worth 3.28d. per cubic yard.

Dredging for tin, five bucket dredges treated 232,830 cubic yards of material, recovering 46 tons of ore, valued at £4,560, the average yield being .44 lb., valued at 4.70d. per cubic yard treated. The records of thirty nine pump dredges show that 1,821,016 cubic yards of material treated yielded 1,118 tons of ore, valued at £111,989, the average being 1.37 lb., valued at 14.77d. per cubic yard of material treated.

The following table demonstrates the value of the metals recovered by dredging since the inauguration of dredging in this State:—

Period.	Area under Lease at end of period.	Gold Dredged.			Stream-tin Dredged.		Total Value.
		Quantity.		Value.	Quantity.	Value.	
	acres.	oz. crude	oz. fine.	£	tons.	£	£
1900	6,943	8,882	7,924	33,660	.....	.....	33,660
1901-5	52,852	144,028	129,850	551,568	1,254	109,026	660,594
1906-10	75,900	185,140	168,566	716,025	7,570	732,134	1,448,159
1911	10,392	25,509	23,364	99,245	1,742	208,095	307,340
1912	10,419	20,649	18,899	80,276	1,621	223,813	304,089
1913	8,976	26,517	24,525	104,177	1,819	239,958	344,135
1914	10,145	25,247	22,974	97,589	1,205	119,167	216,756
1915	8,210	22,160	20,522	87,172	1,164	116,549	203,721

SILVER, LEAD, AND ZINC.

The output of lead and zinc in New South Wales is obtained principally from the silver-lead mines of the Broken Hill district, and for this reason the mining of these metals is discussed conjointly in this chapter.

Silver.

The principal ores from which silver is obtained in New South Wales are argentiferous galena, cerussite, zinc-blende, mispickel, iron and copper pyrites, and limonite (gossan), resulting from the decomposition of pyrites; the important minerals located in various argentiferous lodes include, in New South Wales, native silver, antimonial silver, silver chloride, silver bromide, silver iodide, silver chlorobromide, and several other compositions. The progress of silver-ore development has been so considerable in recent years that the value of the output greatly exceeds that of other metals, even with a persistently low price for silver.

The earliest mention of the discovery of silver in the rocks of New South Wales was made in 1839 by Count Strzelecki, who, following up his geological investigations, recorded the further discovery, in 1845, of native silver at Piper's Flat. In connection with the southern gold-fields of the State, references were made by Rev. W. B. Clarke in 1860 to the presence of silver in alluvial drifts; but the first effort to test the commercial value of the argentiferous ores consisted of a shipment to London for smelting, in 1864, of 120 tons of ore from the Moruya Silver Mine. This ore, although extremely refractory, gave 22 oz. of silver and 1 oz. 8 dwt. of gold per ton; but costs of freight and treatment rendered the venture unprofitable, and the quantity of silver raised in New South Wales was very small until the year 1882, when extensive discoveries of the metal, associated principally with lead and copper ores, were made in various parts of the State, notably at Boorook, in the New England district, and later at Sunny Corner, near Bathurst, at Thackaringa, Silverton, Broken Hill, the Barrier Range generally, and in the Burragorang Valley.

Lead.

Mining for the lead product alone has not been pursued extensively, because all the lead ores have contained more or less silver; and naturally the ores richest in silver were exploited first, since the market price of lead was not high enough to encourage its production except as a by-product, or in simplifying smelting operations.

The earliest record of lead-mining in the State relates to a mine which was opened at Yass in 1848, but closed as unprofitable after a brief period. The principal ores of lead are galena and cerussite; but less common ores, viz., oxide, sulphate, phosphate, arseniate, molybdate, carbonate, chloride, and tungstate of lead have been found in varying quantities in several localities. The chief source of lead supplies is the Broken Hill silver lode; its ores consist mainly of argentiferous cerussite in the upper oxidised zones, and in the lower portion, of argentiferous sulphide of lead and zinc, consisting of a crystalline mixture of galena and zinc-blende. As the ore from the lower workings of the Broken Hill lode showed in recent years a decreasing proportion of silver, and as the price of silver declined, while the value of lead improved, the production of the latter has increased in quantity and in value.

Zinc.

Ores of zinc have been located in various parts, viz., red oxide of zinc in the Vegetable Creek district, carbonate of zinc in the Cooma district, and the oxidised ores of the Broken Hill silver lode. Although zinc-blende, the most common ore of zinc, is found in association with galena in the majority of the silver mines of the State, it is not mined specially for the production of metallic zinc. On the contrary, till recently its occurrence was regarded as militating against the successful extraction of the silver and lead with which the zinc-blende is associated, and for several years after

the opening of the Broken Hill mines the zinc content of the ore was lost in smelting. Improvements in methods of treatment, however, resulted in the saving of a proportion of the zinc concentrates, and subsequently rendered possible the profitable extraction of zinc from the tailings accumulated since the opening of the mines. The formation of companies to recover the zinc contents of large quantities of tailings, and the installation by mining companies of treatment plants, have added greatly to the vast wealth of minerals extracted from this field, and indicate New South Wales as one of the principal producers of spelter in the future.

Production of Silver Lead and Zinc.

Assessment of the total output and value of production of silver-lead ores mined in New South Wales is hampered by the fact that the process of extracting the metallic contents has been conducted for the most part outside the boundaries of the State, a proportion being treated within the Commonwealth, while large quantities of concentrates are exported to Europe for treatment. For this reason the value of the output credited to New South Wales does not represent the value of the finished product, but the estimated net value of the ore, concentrates, bullion, &c., as declared by the several companies to the Customs Department at the date of export from the State.

Calculated on this basis the quantity and value of New South Wales silver and silver-lead ore exported to the end of 1915 are shown in the following table:—

Period.	Silver.		Silver-sulphide, Silver-lead, Ore, &c.			Total Value Exported.
	Quantity.	Value.	Quantity.		Value.	
			Ore Concentrates, &c.	Metal.		
	oz.	£	tons.	tons.	£	£
To 1885	1,730,297	382,884	7,074	191	237,810	620,694
1886-1890	2,481,253	464,081	165,756	94,002	6,478,515	6,942,596
1891-1895	3,009,187	445,873	663,754	231,847	12,615,432	13,061,305
1896-1900	2,352,092	269,663	1,771,983	86,005	9,592,856	9,862,519
1901-1905	4,154,020	445,051	1,877,515	108,353	8,910,586	9,355,637
1906-1910	8,310,962	892,414	1,709,173	42,578	11,561,794	12,454,208
1911	1,767,496	177,095	338,469	.....	2,265,669	2,442,764
1912	2,389,195	251,652	345,307	.....	3,229,614	3,481,266
1913	2,194,871	244,321	391,262	.....	3,563,804	3,808,125
1914	2,871,559	307,198	337,019	.....	2,934,065	3,241,263
1915	3,237,432	322,244	282,777	.....	2,309,418	2,631,662

Similar information regarding the export of lead (pig, in matte, also lead-carbonate and lead-chloride), the product of New South Wales, is shown below; the quantity as stated for 1907 and subsequent years represents the contents, based on average assays, of bullion produced within the State.

Period.	Lead—Pig in matte, &c.		Period.	Lead—Pig in matte, &c.	
	Quantity.	Value.		Quantity.	Value.
	tons.	£		tons.	£
1889-1890	648	8,298	1911	17,276	209,784
1891-1895	738	7,413	1912	17,251	264,530
1896-1900	13,293	258,874	1913	23,554	365,742
1901-1905	17,550	255,366	1914	25,989	370,106
1906-1910	71,434	996,646	1915	30,305	689,439

The following statement shows the quantity and value of zinc (spelter and concentrates), the product of domestic ores, exported, since 1889. These exports represent practically the total production :—

Period.	Zinc (Spelter and Concentrates).		Period.	Zinc (Spelter and Concentrates).	
	Quantity.	Value.		Quantity.	Value.
	tons.	£		tons.	£
1889-1890	307	3,366	1911	516,373	1,414,980
1891-1895	663	7,677	1912	520,518	1,766,242
1896-1900	137,931	146,023	1913	506,661	1,547,987
1901-1905	183,782	440,402	1914	359,310	1,020,711
1906-1910	1,460,138	3,761,223	1915	190,916	1,111,569

The production of silver, lead, and zinc is seen in the following summary of the values during the last ten years :—

Year.	Silver, Silver-lead, Concentrates, Ores, &c.	Lead (Pig, &c.)	Zinc (Spelter and Concentrates).	Total Production.
	£	£	£	£
1906	2,862,973	1,084	292,806	3,156,863
1907	3,915,946	374,182	536,620	4,826,748
1908	2,160,195	186,746	600,883	2,947,824
1909	1,653,615	186,073	1,041,280	2,880,968
1910	1,861,479	248,561	1,289,634	3,399,674
1911	2,442,764	209,784	1,414,980	4,067,528
1912	3,481,266	264,530	1,766,242	5,512,038
1913	3,808,125	365,742	1,547,987	5,721,854
1914	3,241,263	370,106	1,020,711	4,632,080
1915	2,631,662	689,439	1,111,569	4,432,670

In 1908 the output was affected by a fall in the prices of silver and lead, and in 1909 by a strike of the Broken Hill miners. In 1913 the value of production was the highest on record owing to the favourable metal market and settled industrial conditions which prevailed throughout the year. The rate of production was not maintained in 1914 and 1915 consequent on the stoppage of exportation of the large amount of concentrates treated on the Continent in former years prior to the inception of war conditions.

As in the case of silver, &c., the zinc output suffered considerably owing to the war.

As previously stated, the bulk of the ores produced in the silver-lead mines are exported for treatment outside the State and the figures shown in the preceding tables do not convey an adequate idea of the importance of the mines of New South Wales. The Department of Mines has collected independent records from the various mining and smelting companies and ore-buyers with the object of ascertaining the actual value accruing to the Commonwealth from the silver-lead mines of this State. Thus particulars have been obtained regarding the quantity and value of the silver, lead, and

zinc extracted within the Commonwealth, and the gross metallic contents of concentrates exported overseas have been estimated on the basis of average assays as follows:—

Year.	Metal obtained within Commonwealth from ores raised in New South Wales.				Concentrates exported.					Total Value of Production from Silver-lead Ores of New South Wales.
	Silver.	Lead.	Spelter.	Aggregate Value.	Quantity.	Contents by average assay.			Assessed Value.	
						Silver.	Lead.	Zinc.		
	oz. fine.	tons.	tons.	£	tons.	oz. fine.	tons.	tons.	£	£
1906	5,575,410	79,925	1,008	2,112,977	165,151	3,111,013	58,683	33,427	1,876,834	3,989,811
1907	5,921,457	79,870	984	2,228,420	337,823	6,228,225	111,830	76,645	3,574,775	5,803,195
1908	6,484,238	103,371	1,065	2,008,410	330,812	5,499,381	69,501	113,853	2,400,997	4,409,407
1909	3,717,016	64,821	..	1,176,394	409,438	6,867,775	90,307	144,018	2,707,680	3,884,074
1910	5,196,323	94,818	489	1,755,220	506,959	7,608,336	83,035	184,408	3,180,850	4,936,070
1911	5,731,468	94,966	1,703	1,949,271	559,591	8,797,677	111,795	188,669	3,259,246	5,208,517
1912	5,220,538	101,811	2,545	2,477,442	537,733	8,293,711	97,736	194,214	3,692,352	6,169,794
1913	5,908,638	106,432	4,121	2,709,867	547,388	8,596,251	117,903	184,149	3,769,691	6,469,558
1914	5,481,286	99,925	5,014	2,592,322	431,965	7,879,240	88,173	146,400	3,004,248	5,596,570
1915	3,081,952	46,991	2,352	1,634,717	316,284	5,222,927	89,455	90,232	3,176,434	4,811,151

In connection with the above figures, although the metallic contents are based on average assays, it is impossible to say what proportion of the bulk quantities was recovered. In the case of the lead and zinc contents, the quantities have been estimated only when payment is allowed for them.

It is estimated that the quantity of silver yielded by the mines of New South Wales to the end of 1915 amounted to 329,012,370 oz. fine, valued at £48,698,251.

	oz. fine.	£
Metal obtained in Commonwealth ...	149,822,381	21,726,613
Contained in concentrates, &c., exported ...	179,189,989	26,971,638
Total ...	329,012,370	48,698,251

Broken Hill Field.

The mines on the Broken Hill field are the chief contributors to the silver and silver-lead and zinc output of Australia. The argentiferous lead ores of the Barrier Ranges and Broken Hill districts were discovered in 1883. The field extends over 2,500 square miles of country, and has developed into one of the principal mining centres of the world. It is situated in western New South Wales, beyond the River Darling, and on the confines of South Australia.

In the Barrier Range district, the lodes occur in Silurian metamorphic micaceous schists and banded gneisses, intruded by granite, porphyry, and diorite, and traversed by numerous quartz reefs, some of which are gold-bearing.

The Broken Hill lode is the largest yet discovered; it varies in width from 10 feet to 200 feet, and may be traced for several miles, the country having been taken up all along the line of lode, and subdivided into numerous leases, held by mining companies and syndicates.

The output of ore from the Broken Hill mines for each of the last ten years is shown in the following statement:—

Year.	Oxidised Ore.	Sulphide Ore.	Total.
	tons.	tons.	tons.
1906	20,943	1,231,193	1,252,136
1907	32,142	1,620,749	1,652,891
1908	38,241	1,409,263	1,447,504
1909	23,478	1,006,809	1,030,287
1910	24,102	1,219,582	1,243,684
1911	26,501	1,457,896	1,484,397
1912	28,057	1,611,602	1,639,659
1913	27,876	1,716,301	1,744,177
1914	92,970	1,348,996	1,441,966
1915	47,025	1,457,578	1,504,603

The decrease in production in 1914 and 1915 is due to the suspension of operations by some mines and the adoption of half-time by others, consequent on the war.

The most satisfactory results have been obtained in the production of zinc (spelter and concentrates). The quantity and value exported during each of the last seven years may be seen in the following statement:—

Year.	Zinc (Spelter and Concentrates) Exported.		Year.	Zinc (Spelter and Concentrates) Exported.	
	Quantity.	Value.		Quantity.	Value.
	tons.	£		tons.	£
1909	373,906	1,041,280	1913	506,661	1,547,987
1910	468,627	1,289,634	1914	359,310	1,020,711
1911	516,378	1,414,980	1915	190,916	1,111,569
1912	520,518	1,766,242			

In the enormous deposits of sulphide ores at Broken Hill, zinc-blende is a principal constituent.

In the utilisation of tailings two companies were actively engaged during 1915, and the Broken Hill Proprietary Company conducted smelting operations at Port Pirie, South Australia.

The total value of the mineral output of the Barrier district during 1915 was estimated at £3,341,921, as compared with £4,221,179 in 1914. In addition, the treatment of zinc tailings in 1915 yielded an output valued at £525,212, and returned to shareholders £49,138, bringing the total production of the Broken Hill field to £3,867,133 for the year, and the distribution to shareholders to £760,840.

The following statement summarises the recorded operations of the companies engaged in mining on the Broken Hill field, and the dividends paid during the years 1914 and 1915:—

Name of Company.	Value of Output.		Dividends paid.	
	1914.	1915.	1914.	1915.
	£	£	£	£
Proprietary	1,410,534*	585,450	166,100	236,202
Block 14	78,372	9,004	3,000	13,000
British	227,559	12,286	45,000	.....
Block 10	75,147	.....	22,500	.....
Sulphide Corporation	1,039,230	1,429,210	96,250	192,500
South	497,900	600,197	140,000	120,000
North	567,907	474,858	150,000	150,000
Junction	10,332	.....	.....	.....
Junction North	89,149	.....	.....	.....
Zinc Corporation Mining Department (formerly South Blocks)	225,049	230,916	†	†
Barrier South (late South Extended) ... ..	.....	.....	.....	.....
Total	4,221,179	3,341,921	622,850	711,702

* The value of the ores purchased is not included.

† Since amalgamation with Zinc Corporation separate figures regarding dividends of Mining Department are not available.

To the end of the year 1915 the value of production by the mines on the Broken Hill field from the inception of operations was in excess of 86 millions sterling, and the dividends and bonuses paid amounted to £20,070,870.

The value of the machinery and plant on the Broken Hill field in 1915 was estimated at £1,957,756.

The average number of men employed in and about the silver-lead mines on the Broken Hill field during 1915 is estimated at 5,315. Compared with the previous year there was a decrease of 2,540 men.

Yerranderie Division.

Next in importance to the Broken Hill field are the Burragorang silver lodes, in the Yerranderie Division. In this field rich galena occurs in bunches, but the deposits are very variable in width and composition. Owing to the excessive cost of transport, only high-grade ore is sent away, and a consider-

able quantity of second-grade is left in the mines or dumped at the surface for future treatment. The operations of the mines on this field since 1900 are shown in the following statement:—

Year.	Ore raised and sold.	Metallic contents of Ore.			Net value received.
		Gold.	Silver.	Lead.	
	tons.	oz.	oz.	tons.	£
1900	616	101	58,527	118	9,125
1901	952	174	86,017	125	11,000
1902	1,553	306	146,018	229	18,373
1903	1,293	308	145,275	217	18,304
1904	3,733	550	263,621	448	32,068
1905	3,527	707	243,403	451	37,599
1906	2,473	557	223,572	439	39,156
1907	4,469	862	479,243	1,005	80,582
1908	7,402	1,293	828,129	1,892	114,029
1909	6,650	1,231	719,264	1,654	99,374
1910	7,338	1,399	783,295	1,873	113,071
1911	6,606	1,025	728,340	1,674	105,600
1912	7,055	1,438	676,095	1,906	121,859
1913	5,163	1,070	475,866	1,458	77,546
1914	4,644	1,061	520,880	1,269	82,053
1915	7,021*	735	475,180	1,302	81,066

* Includes 4,508 tons of second-grade ore.

Other Fields.

The other fields which contributed to the output of silver-lead ores include the Kangiara mines, in the Yass Division, where 616 tons of ore and 272 tons of concentrates were treated in 1915 and 50 tons of ore and 143 tons of concentrates, primarily treated as copper ore, were smelted, with the result that the total production from 1,081 tons was 22,210 oz. silver valued at £2,220, lead to the value of £5,330, gold valued at £596, and copper valued at £818, or a total value of £8,964.

In the Condobolin Division during 1915 the Iodide (Mineral Hill) Company raised 1,313 tons of ore, estimated to contain, gold 1,157 oz.; silver, 49,483 oz.; and lead, 210 tons, the total value being given as £13,051.

In the Condobolin Division during 1914 the Iodide (Mineral Hill) Company raised 202 tons of ore, estimated to contain, gold 5 oz.; silver, 7,946 oz.; and lead, 40 tons, the total value being given as £1,598.

The Cobar copper mines, of which details are given in connection with copper mining, yield large quantities of silver and lead.

COPPER.

Ores of copper are worked chiefly in the central part of the State, between the Macquarie, Bogan, and Darling Rivers. Deposits occur also in the New England and Southern districts, as well as at Broken Hill, thus showing a wide distribution.

The principal useful ores are native copper, found in most of the cupriferous deposits; red and black oxides; grey and yellow sulphides; green and blue carbonates.

The earliest effort to develop copper-mining in this State dates from 1844, and in 1851 the first geological examination of the known copper deposits was made by Surveyor Stutchbury. As with the development of

mining generally, but particularly with the copper-mining industry, disadvantages of distance from commercial centres, and lack of transport facilities, militated against steady development, and in the majority of cases, after the extraction of the richest oxidised ores in the upper levels, the mines closed down, especially when the market value of the metal showed any tendency to depreciate. Since 1894 an increasing demand for copper for industrial purposes has assured a fair price, and with extension of transport facilities and improvement in methods of treatment, particularly of low-grade sulphide ores, copper has advanced to third place in the aggregate value of production from the metal mines of the State, the total output of metal and ore being assessed at nearly 13 millions sterling at December, 1915.

Production of Copper.

The copper lodes of New South Wales contain ores of a high grade as compared with those of many well-known mines worked in other parts of the world; and, given a fair price and transportation facilities, are capable of yielding satisfactory returns. The net export of copper ingots, matte, regulus, and ore is taken as the production of the State. The quantities and values are shown below from the year 1858 to the present time:—

Period.	Quantity.		Value.
	Ingots, Matte, and Regulus.	Ore.	
	tons.	tons.	£
1858-1879	14,876	2,102	1,067,670
1880-1884	23,715	19	1,554,326
1885-1889	15,160	537	778,804
1890-1894	10,195	1,738	454,765
1895-1899	25,408	852	1,286,094
1900-1904	32,173	8,791	2,014,040
1905-1909	41,425	3,057	2,972,253
1910-1914	42,277	9,815	2,529,554
1915	2,463	4,510	234,437

For the year 1915 the total value, £234,437, represents £176,614, value of ingots, matte, and regulus, and £57,823, value of copper ore.

The copper-mining industry reached its highest point of production in 1906, when the value of the output was £789,527. The year of highest production previously was 1883, when copper to the value of £472,982 was obtained; but in the following years the industry rapidly declined through the heavy fall in the price of the metal, till in 1894 the year's production was valued at £63,617, the average price of the metal for the year being only £40 per ton.

At Great Cobar the furnaces were idle for about nine months of the year 1914 owing to the European crisis, but operations were resumed in 1915, and the smelters recommenced in January, 1916.

In 1915 the Cadia Copper Mine produced 500 tons of copper matte, valued at £16,011.

During 1915 the metals produced at the works of the Electrolytic Refining and Smelting Company of Australia, Ltd., Port Kembla, included 20,733 tons of copper valued at £1,745,700, obtained principally from imported blister copper. From domestic ores, 186 tons of copper were obtained. At Waratah, 60 tons of copper were obtained from ores mined in this State.

Cobar Field.

The Cobar mines constitute the chief centre of the copper mining industry, contributing 57 per cent. of the State's production. From the point of view of combined output, the gold-copper mines worked in the Cobar district rank next, in value of production, to the silver-lead mines of the Broken Hill field. The following statement shows the quantities and values of the minerals taken from the Cobar field in each of the last ten years:—

Year.	Quantity.				Value.				
	Gold.	Silver.	Copper, Metal, and Ore.	Lead.	Gold.	Silver.	Copper, Metal and Ore.	Lead.	Total.
	oz. fine.	oz.	tons.	tons.	£	£	£	£	£
1906	52,746	80,751	5,950	957	224,052	10,034	516,320	17,416	767,822
1907	53,946	84,375	5,647	317	229,150	10,117	474,681	4,258	718,206
1908	64,082	90,218	6,099	...	272,204	9,343	347,429	...	628,976
1909	58,047	79,887	5,680	...	246,567	5,991	253,378	...	505,936
1910	61,328	114,467	6,270	37	260,506	8,710	282,348	485	552,049
1911	62,591	125,276	6,611	147	263,870	9,463	370,109	1,911	647,353
1912	66,801	275,861	6,848	1,420	283,751	28,784	410,155	23,393	746,083
1913	63,414	125,297	6,405	1,475	269,367	13,633	391,914	19,950	694,864
1914	48,965	24,612	1,959	509	206,056	2,515	116,460	1,336	326,367
1915	39,413	1,838	1,894	...	167,414	184	134,212	...	301,810

The Cobar lode forms a low ridge, having a north and south trend, in a country of sandstone and slate, the elevated areas being the direct result of mineralisation, the principal indurating agencies in the high metalliferous areas being silica and iron. The copper sulphides are eminently suitable for pyritic smelting, but up till 1901 the ores as they came from the stopes were roasted.

An assay of Cobar copper made in 1881 revealed 92·65 per cent. copper, also some silver and gold; but, though gold was a known content of the copper ores, no attempt at recovery was made till 1893-4, the copper ore being exported and sold at lower prices than Chilian copper, notwithstanding the gold and silver.

TIN.

Tin, unlike copper, is restricted in its geographical and petrological range, and is the rarest of the common metals in commerce.

In addition to alluvial deposits, tin ore occurs *in situ* in granite and adjacent contact rocks, usually occupying fissures or penetrating walls; the majority of the tin lodes yet discovered in the State are on a small scale, but the lodes, developed or undeveloped, are very numerous. The maximum depth attained in the tin lodes of New South Wales is about 360 feet.

Tin is usually contaminated by iron, arsenic, antimony, lead, copper, tungsten, molybdenum, and stannous oxide, but the impurities are removable readily if advantage be taken of the high specific gravity of tinstone, its stability at red heat, and its insolubility in acids. Samples of native tin have been reported in this State, but the common tin ores are cassiterite and stannite. The latter ore was, till the location of deposits at Howell, and later at Tolwong, New South Wales, and at Zeehan, Tasmania, too rare to be commercially valuable. Other ores of tin, caufieldite, cylindrite, franckeite, stokesite, and tealite are comparatively rare.

Tin ore occurs in the extreme Northern, Southern, and Western divisions, but the proved area of workable quantities is limited practically to the western fall of the New England Tableland, with Emmaville and Tingha as the chief centres. It has been discovered also in small quantities in the Barrier district, at Poolamacca and Euriovie; near Bombala, in the Monaro district; at Gundle, near Kempsey; at Jingellic and Dora Dora, on the Upper Murray; in the valley of the Lachlan; and in fine particles in beach sands along the coast, in association with gold, platinum, and monazite.

Much interest was aroused in 1912 by the discovery of stanniferous lodes at Ardlethan, and a large number of claims were taken up. A report by the Government Geologist shows that the lodes occur in granite close to its junction with Silurian slates, and are lenticular in form, varying in width from an inch to several feet. The developmental work was insufficient to serve as a basis of a reliable estimate as to the permanence of the lodes, but surface indications favoured the occurrence of rich deposits of ore separated by patches more or less unproductive. The accumulations have resulted from denudation of the upper portions of the lode; in some cases large masses of ore found on the surface consisted of cassiterite encrusted with a considerable proportion of iron oxide, and yielded from 40 to 50 per cent. of metallic tin. Similar occurrences were worked in neighbouring districts, but have been abandoned owing to the exhaustion of payable ore.

The value of ore and concentrates from the Ardlethan field in 1915 amounted to £53,771. During the year the industry has been much hampered by war and financial conditions. The field is well provided with water, and a considerable amount of new machinery has been installed at the mines, so that the prospects are bright for a much improved output.

As the available sources of the world's tin supplies are comparatively restricted, and no known important fields await development, the necessity for preserving stanniferous areas for legitimate mining is apparent. In New South Wales these areas are usually rugged and unfit for close settlement, but their grazing capacity can be fully developed without hampering mining activities. In regard to alluvial deposits, the possibility of dredging, after they have been exploited by the modern system of dredging or hydraulic sluicing, is not alluring. As to lode-tin mining, the majority of the innumerable lodes are small, and the tin ore capricious in occurrence; but the principal lodes certainly offer inducement for systematic development work.

Output of Tin.

From the opening of the fields, in 1872, the annual output of tin increased rapidly until 1881, when its value was £568,795, being almost equal to the output of gold for the year, and but slightly behind coal. From 1881 to 1902 the effects of periods of dry weather, and consequent restriction of water supplies combined with fluctuations in the price of metal, tended to make the output very variable from year to year, the minimum output being £45,638

for 1898. Since 1902 the activity which has characterised tin-mining on the various fields throughout the State, owing to the satisfactory prices obtained, has resulted in a steadily increased output value, so that tin has contributed in a very considerable degree to the total production of the mineral wealth of the State, its aggregate yield, in point of value, standing in the sixth place, after coal, silver, gold, copper, and zinc.

The output and the value of production of tin since 1872 have been as follows :—

Period.	Ingots.	Ore.	Aggregate Value.
	tons.	tons.	£
1872-1879	18,364	12,996	2,015,407
1880-1884	22,842	2,700	2,194,533
1885-1889	12,974	1,635	1,415,374
1890-1894	7,196	1,040	677,392
1895-1899	4,608	197	342,503
1900-1904	4,220	1,222	617,446
1905-1909	5,567	3,712	1,191,635
1910	847	1,021	228,156
1911	958	971	307,059
1912	900	1,175	338,074
1913	903	2,118	421,292
1914	650	1,667	267,130
1915	857	1,331	266,780

The figures for 1915 show value of ingots £135,350, and ore £131,430, making the total as above, £266,780.

In the years 1908 and 1909 the value of the output showed a decrease below the records of the preceding years, due to a drop in the market price and to the lesser output of ore principally from the dredges in the Tingha division. Since 1910 the price rose steadily, and as a result the value of the output increased. In 1914, however, owing to the disturbance of the metal market, the price fell, and there was a diminution in the supply, the value of production being £267,130, as compared with £421,292 in the previous year. Although the price of tin recovered considerably during 1915, the prolonged dry weather and the war were responsible for a great falling off in the production.

Local-treatment plants are neither numerous nor extensive, and the industry of tin-dressing has been intermittent and relatively unimportant; the recovery and cleaning of alluvial tin ore form a simple process in the early stages, but become more complicated in the final steaming stage. In the first year of tin-mining, the crude product of the mines was exported, but with the introduction of local auction sales, penalties for depreciation below a minimum standard forced sellers to remove the heavy associates of tin in the ore. Though the first tin ore from Elsmore, New England, was smelted in 1872, smelting has not been carried on extensively; but, as dressed tin ore is sufficiently pure, very valuable, and of relatively small bulk in proportion to its metallic content, the absence of local smelting facilities does not seriously handicap the export trade.

Dredging for Tin.

Tin dredging was commenced in New South Wales in 1900, at Cope's Creek, near Tingha, and since that year 16,375 tons of stream tin, valued at £1,748,742, have been won by dredges. In the winning of stream tin there were, during 1915, five bucket dredges and thirty-nine pumping plants

employed, and dredging plants furnished a yield of 1,164 tons, valued at £116,549. Figures in detail in regard to tin dredging have been given in connection with gold-dredging operations.

The principal leads worked during the year were at Vegetable Creek, near Emmaville; at Tingha; at Wilson's Downfall; and at Deepwater.

During 1915 the plants operating in the Emmaville division obtained 513 tons of stream tin, valued at £51,954, as the result of the year's work. In the Tingha Division the dredges recovered 418 tons of stream tin valued at £41,563. There were also several plants operating in the Bendemeer, Wilson's Downfall, Glen Innes, Deepwater, and Inverell Divisions.

The following statement shows the importance of the Emmaville division in relation to the aggregate output of the dredges during the past five years:—

Year.	Emmaville Division.			Value of stream tin won in New South Wales.	Proportion from Emmaville Division of Total output Value.
	Material treated.	Stream tin recovered.	Value.		
	cubic yards.	tons.	£	£	per cent.
1911	1,183,804	713	83,308	208,095	40·0
1912	1,039,789	744	101,943	223,813	45·5
1913	1,341,977	820	106,444	239,958	44·4
1914	798,902	509	49,659	119,167	41·7
1915	786,617	513	51,954	116,549	44·6

Stannite-bearing Lodes.

As the discovery of the stannite-bearing lodes of New South Wales brought the previously rare ore of stannite into the arena of commercial ores, those lodes are worthy of further notice. At Howell, the stannite ore is associated with galena, zinc-blende, and mispickel; at Towlong also with chalcopyrite.

The Tolwong lode was located in 1904, and an average sample of the best copper ore from all openings yielded copper, 10·23 per cent.; tin, 2·10 per cent.; arsenic, 8·78 per cent.; silver, 2 oz. 15 dwt. 13 grs. per ton; gold, several grains per ton. Mining is still in the developmental stage.

IRON AND IRON ORES.

The commercial ores of iron are classified as follows:—

Magnetic or magnetite.	Spathic.
Red or hematite.	Aluminous.
Brown or limonite.	Chrome.

Apart from the chemical composition and mechanical structure of an ore, and the nature and proportion of impurities it contains, the question of commercial value depends upon the position of deposits, relative to fuel, limestone, and water, and the cost of raising the ore and the means of transport available.

Iron is known to occur throughout New South Wales, principally in the form of magnetite, hematite or goethite, limonite, and bog-iron; deposits of chrome iron are also found. Magnetite, as the richest of the iron ores, contains, when pure, a little over 72 per cent. of available metallic iron. Of a number of analyses made from deposits at Brown's Creek, in the county of Bathurst, where veins of this ore have been opened out, the samples of ore yielded from 48·83 to 61·30 per cent. of metallic iron.

Hematite or goethite occurs in very extensive deposits in the Blue Mountains and Macquarie Ranges, the principal centres explored being situated at Mittagong, Picton, Berrima, Cadia, Lithgow Valley, Wallerawang; in the Rylstone and Mudgee districts; and in the vicinity of Port Stephens. The results of a number of analyses of this kind of ore denote that it is very rich in metallic iron, containing a proportion of 42·69 to 64·48 per cent., and in the majority of cases over 45 per cent. of metal. A sample of hematite from the Maitland district contained 60·83 per cent. of metallic iron, and another from Mount Pleasant, near Wollongong, analysed during 1891, gave 54·28 per cent. of iron. The value of these deposits is enhanced by their almost invariable occurrence in proximity to limestone and coal beds. It is fortunate, also, that the main lines of railway pass through the regions where the deposits are most easily worked.

Limonite—a variety of brown hematite—occurs principally at Lithgow, Eskbank, and Bowenfels, in the Blue Mountains; in several parts of the Hunter River coal-field; and at Bulli, in the Illawarra district. This ore is usually found very rich in metal, and contains an average of over 50 per cent. of iron, while English clay bands, which are mostly carbonates, contain only about 30 per cent. of metallic substance. It occurs in lenticular layers of no great extent, in the Coal Measures. Bog-iron ore, which is impure limonite, is found principally at Mittagong; and assays of this ore gave a percentage of metal of more than 45 per cent.

Iron Ore Supplies.

Estimates made during 1905 in the Geological Survey Department give the description and quantity of iron-ore then available in the various districts of New South Wales, where the deposits occur. The estimates were prepared on the basis of superficial area, depth to which the ore extends, and average weight of a unit of ore, and were regarded as conservative approximations:—

District.	Description of Ore.	Estimated minimum quantity of Ore.
		tons.
Bredalbane	Brown ore and hematite	700,000
Cadia	Specular hematite, magnetite, and carbonate ore.	39,000,000
Carcoar	Hematite and brown ore	3,000,000
Chalybeate Spring Deposits of Southern District	Brown ore	1,510,000
Cowra	Magnetite	100,000
Goulburn	Brown ore	1,022,000
Gulgong	Magnetite	120,000
Mandurama and Woodstock	Brown ore	609,000
Marulan	Brown ore and hematite	40,000
Mudgee	Brown ore with manganese... ..	150,000
Newbridge, Blayney, and Orange	Brown ore and magnetic ore	150,000
Queanbeyan	Magnetic ore	1,000,000
Rylstone and Cudgegong	Brown ore	443,000
Wallerawang and Piper's Flat	Brown ore	200,000
Williams and Karuah Rivers... ..	Titaniferous magnetite	1,973,000
Wingello	Aluminous ore	3,000,000
	Total	53,017,000

It is noticeable that practically all the known iron-ore permanent deposits of New South Wales are to be found west of the Great Dividing Range.

Of these deposits, the Cadia ironstone beds, 14 miles from Orange, have proved the most extensive yet examined. The ore consists of two classes, oxidised and unoxidised, the former, being chiefly hematite and magnetite, containing from 57 to 65 per cent. of metallic iron. A large proportion of the ore is of excellent quality, and suitable for the manufacture of steel by the ordinary Bessemer and other acid processes, and compares favourably with some of the best American ores with an admixture of limonite.

The deposits at Carcoar include hematite and magnetite, which contains about 52.67 per cent. of metallic iron, with 11 per cent. silica, but is slightly deficient in phosphorus.

Particular value attaches to these deposits on account of their proximity to the coal supplies of Lithgow and the limestone deposits of Portland.

A large amount of iron ore has been raised from the deposits situated in the Marulan, Goulburn, Bredalbane, Mittagong, and Carcoar districts. At Mittagong, Moss Vale, Picton, and in the Illawarra district, some of the shale and sandstones are highly ferruginous; and in these localities there are also quantities of iron ores deposited through the action of chalybeate springs, which are still active, so that the process of deposition of iron oxide can be seen. The ore is limonite, partly ochreous and powdery and partly compact.

In the Mudgee district there are manganiferous deposits suitable for the production of ferro-manganese.

Apart from the Cadia deposits already mentioned, magnetite, though found in numerous localities, has not been located in deposits capable of yielding great quantities of ore; but particular interest attaches to the titaniferous magnetite deposits in the vicinity of the Williams and Karuah Rivers, on account of their proximity to the northern coal-fields, and to the occurrence of limestone in the locality.

The ore contains from 36 to 52 per cent. of metallic iron, and from 3 to 16 per cent. of titanitic acid, in addition to silica and phosphorus, thus militating against the profitable employment of the ore.

Another magnetic iron ore deposit of importance is that at Queanbeyan, containing, approximately, 1,000,000 tons. With the opening of the Federal Capital railway, this deposit would rank as the second best in New South Wales.

Aluminous iron ores and bauxites have been examined, at Wingello chiefly, but ferruginous bauxites are known to be widely distributed throughout New South Wales, as at Moss Vale, Inverell, and Emmaville; and these are of considerable economic value as furnace charges when rich hematites and other ores are being smelted.

The clayband iron ores of the upper coal measures do not extend over wide areas. They are shales containing varying percentages of ferric and ferrous oxides, and where the shale has become thoroughly impregnated with the iron salts an economic iron ore is obtainable. Spathic ores have not been located in commercial quantities in New South Wales.

In 1911 a Royal Commission was appointed to investigate the iron and steel industry in New South Wales, particularly as to domestic ores for the manufacture of iron and steel, the costs of production, and the approximate cost of a plant capable of producing the whole of the iron and steel likely to be required by the Governments within the Commonwealth. The Commission found that the known iron ore deposits in New South Wales, and in the other States of Australia, are ample in quantity and quality to warrant the outlay of capital in the equipment of blast furnaces, and iron and

steel works for manufacturing; that the coal-fields in the northern and southern districts of New South Wales can supply suitable coke to meet the maximum demand.

Iron and steel works have been constructed by the Broken Hill Proprietary Company near Newcastle.

Ironstone Flux.

Varying quantities of iron ore have been despatched from the different producing centres to the smelting works at Dapto and Cockle Creek, and to the ironworks at Lithgow, for use as flux, the gold contents of the ore helping to defray the cost of railway carriage. The estimated quantity and value of ironstone flux raised during the years 1899 to 1912 was 106,917 tons, valued at £81,618.

Owing to suitable ores being obtained, the requirements of the smelting companies have decreased steadily, and during the years 1913-15 no ironstone flux was raised for fluxing purposes.

Iron Oxide.

Parcels of iron oxide are sent from the Port Macquarie, Mittagong, and Goulburn districts to various gas-works for use in purifying gas, the output of iron oxide for the last ten years being as follows:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1906	584	336	1911	1,586	2,377
1907	1,595	1,961	1912	3,757	4,763
1908	1,827	1,857	1913	3,204	3,363
1909	4,900	4,948	1914	3,144	5,384
1910	1,351	714	1915	2,294	3,774

The total recorded output to the end of 1915 was 32,338 tons, valued at £43,669.

Production of Iron and Steel, and Bounty paid.

Under the Manufactures Encouragement Act, 1908, the Commonwealth Government provided a bounty, to a total amount of £150,000, on all pig-iron made from Australian ore, and on puddled bar-iron and steel made from Australian pig-iron within the Commonwealth, from 1st January, 1909, to 30th June, 1914; the bounty was payable at the rate of 12s. per ton produced, and the maximum amount payable in any year was £30,000. This bounty rate was extended until 30th June, 1915, but was subsequently replaced by a bounty of 8s. per ton on pig-iron manufactured between 30th June, 1914, and 31st December, 1915. The following table shows the production and bounty paid during the year 1909-15:—

Year.	Pig-iron.		Puddled Bar-iron.		Steel.	
	Production.	Bounty Paid.	Production.	Bounty Paid.	Production.	Bounty Paid.
	tons.	£	tons.	£	tons.	£
1909	23,180	13,908	1,939	1,163	1,855	1,113
1910	40,326	24,196	3,384	2,036	3,410	2,046
1911	24,658	14,795	1,789	1,073	2,633	1,580
1912	31,104	18,663	549	329	.....	.....
1913	40,490	24,294	.....	.....	1,088	653
1914	58,528	35,117	.....	.....	14,929	8,957
1915	75,000	30,000	.....	.....	.....	.....

In regard to the bounties paid for production of galvanized iron and wire netting, figures are given in the chapter "Manufacturing Industry" of this Year Book.

The output and value of finished iron, pig-iron, &c., for the last ten years are shown in the following statement:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1906	8,000	112,848	1911	36,354	145,416
1907	29,902	178,632	1912	32,677	130,708
1908	40,207	118,224	1913	46,563	186,252
1909	29,762	106,357	1914	75,150	254,257
1910	40,487	161,948	1915	76,318	267,000

The recorded output of pig-iron, &c., to the end of 1915 was 535,476 tons, valued at £2,821,295. The bulk was made from scrap-iron, but in 1907 the smelting of iron ore was resumed, and the figures given above include the following production from ores mined in the State:—

Year.	Minerals Used.			Pig-iron.		Steel Ingots.
	Iron Ore.	Coke.	Limestone.	Production.	Value.	
	tons.	tons.	tons.	tons.	£	tons.
1907	34,500	20,873	13,433	18,631	60,550	5,700
1908	51,206	36,134	22,467	30,393	98,777	3,946
1909	46,740	34,785	21,649	26,762	100,357	4,958
1910	72,825	54,619	31,890	40,487	161,948	7,815
1911	58,206	45,178	23,921	36,354	145,416	4,838
1912	55,170	51,102	20,399	32,677	130,708	.....
1913	71,577	60,854	26,251	46,563	186,252	13,608
1914	135,316	97,224	45,938	75,150	254,257	24,420
1915	134,684	96,316	42,379	76,318	267,000	25,040

For the last six years the output was wholly from ores raised in New South Wales; in 1907, 2,831 tons, and in 1908, 5,637 tons of slag were used, in addition to the coke and limestone shown above.

TUNGSTEN ORES.

Tungsten minerals occurring as ores are hubnerite, wolframite, ferberite, and scheelite; and though tungsten is of wide occurrence, the individual deposits in any part of the world are rarely large enough to be commercially important. Australia ranks as one of the chief producers of tungsten ores, which in this State are generally associated with tinstone (cassiterite), bismuth, and molybdenite. The deposits are patchy, but a steady demand during recent years has stimulated the search for payable deposits, especially in the Peel, Uralla, and New England districts.

Hillgrove is the only district in which scheelite is known to exist in commercial quantities; the deposits occur as thin veins and small lenses, and the mining is restricted to comparatively limited enterprises; the ore is of good quality, and carries a large percentage of tungstic acid. The principal deposits of wolfram are situated in the Torrington Division. During 1914 mining for wolfram was also carried on in the Frogmore, Burrowa, Tenterfield, and Deepwater Divisions.

Scheelite and Wolfram.

The output of scheelite and wolfram in the last ten years is shown in the following statement:—

Year.	Scheelite.		Wolfram.	
	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£
1906	110	7,647	132	9,057
1907	196	23,781	207	26,235
1908	154	11,032	86	6,742
1909	193	14,618	127	11,249
1910	151	15,747	166	16,258
1911	108	11,342	233	29,991
1912	56	4,963	172	16,584
1913	44	4,457	126	13,037
1914	57	5,852	139	14,438
1915	33	4,004	50	5,031

Since the year 1903 the exports of scheelite and wolfram from New South Wales were as follow:—Scheelite, 1,264 tons, value £115,161; wolfram, 1,673 tons, value £165,023.

ANTIMONY.

Ores of antimony are of common occurrence in New South Wales, but the best are located in the Armidale, Bathurst, and Rylstone districts; and at Bowraville, on the North Coast. The principal source of supplies is at Hillgrove, near Armidale, where the lodes occur near the junction of slate and granite. The antimony ore is obtained principally in the course of mining for gold or scheelite, with which it is associated. The chief ore worked is antimonite or stibnite, which occurs frequently in lodes with a quartz gangue; native antimony and occasionally stibnite have been found at the Lucknow mines, near Orange, and other ores occurring frequently are cervanite, jamesonite, dyscrasite, tetrahedrite, and antimonial silver chloride.

Prospectors have been successful in obtaining small quantities of ore in the Kookabookra, Uralla, Maitland, and Barraba divisions, and in the Copmanhurst district; and lodes have been opened and partly worked near Nambucca, Drake, Gulgong, and Razorback. Analyses of antimony ore show from 16·5 to 79·5 per cent. of metal; but the working of the mines is intermittent owing to the unstable market conditions. The output was increased as the result of favourable prices in the periods 1880-82 and 1890-94; in May, 1906, a rise in the price caused the reopening of numerous claims, and mining operations were carried on with great activity throughout the year on the Hillgrove field, and at Bowraville. During the succeeding year, however, the value receded, and has since remained low.

The following statement of the quantity and value of the output of antimony metal and ore during the last ten years will show the fluctuating nature of the industry:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1906	2,451	52,645	1911	166	2,010
1907	1,752	46,278	1912	63	355
1908	117	1,141	1913	18	407
1909	96	711	1914	36	464
1910	97	1,450	1915	637	12,519

The value of antimony ore raised during 1910 was enhanced by gold contents. Owing to the low price ruling for antimony during late years mining for this metal has been practically neglected. The total output of antimony to the end of 1915 is estimated at 17,345 tons, valued at £318,614.

MANGANESE.

Manganese ores have been discovered in various places in New South Wales, but generally in localities lacking transport facilities. Pyrolusite, a manganese dioxide, and psilomelane or wad, are the commonest ores. Other ores, as manganite and diallogite, have been found in the Bathurst district; rhodonite and braunite have been found in several widely-separated districts. Specimens analysed have yielded a very high percentage of metal; but the demand in the State for manganese is small, and prices are unremunerative. Manganiferous iron ores have been located in the Mudgee district.

At Grenfell during the year 1915, 713 tons of this mineral were raised, the value being £535.

Assays made during 1911 of samples from Carcoar, Rockley, and Grafton showed 35-49 per cent. manganese. A sample from Trundle gave 47 per cent. metallic manganese, equal to 74 per cent. manganese dioxide; and another from Tilbuster gave 53 per cent. metallic manganese, equivalent to 84 per cent. manganese dioxide.

BISMUTH.

Ores of bismuth, which is a rare metal, have been located in various districts in New South Wales. In workable quantities bismuth has been found, associated with molybdenite, tin, and gold, in quartz-veins, chiefly in the neighbourhood of Glen Innes, the principal mines being situated at Kingsgate. Rich argentiferous ores have been obtained, the lode consisting of soft granular felspar matrix, impregnated with blotches of bismuth, molybdenum, and chloride of silver. At the Ten-mile, and on Cadell's property, in the Deepwater Division, bismuth is present in association with molybdenite and wolfram ores. The total bismuth metal and ore exported during the last ten years is shown below:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1906	25	5,700	1911	8	1,800
1907	16	5,268	1912	6	1,210
1908	9	2,017	1913	9	1,202
1909	9	1,624	1914	15	2,837
1910	6	2,004	1915	18	4,981

The total value of bismuth, the product of New South Wales, exported up to the end of 1915 was £137,557, representing 583 tons of metal and ore.

MOLYBDENUM.

Molybdenum is used chiefly in the preparation of special steels, its influence being similar to that of tungsten, but it gives greater toughness, and the steel so treated is more readily worked when hot, and stands hardening better than tungsten steel. Molybdenite, the principal ore of molybdenum, occurs most plentifully in pipe-veins at Kingsgate, near Glen Innes, and at Whipstick, near Pambula; in both these localities, and in the locality of Deepwater, it is associated with ores of bismuth. In 1913 molybdenite, associated with other minerals, was discovered in the Tenterfield Division.

The following statement shows the quantity and value of molybdenite exported during the last ten years:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1906	33	4,798	1911	21	2,591
1907	22	3,564	1912	57	3,706
1908	9	929	1913	79	6,802
1909	28	3,249	1914	61	11,451
1910	48	5,667	1915	32	16,937

The total quantity of molybdenite exported since 1902 was 476 tons, valued at £71,226.

PLATINUM.

Platinum occurs in several districts of New South Wales, but platinum mining, in comparison with other branches of mining, and for less valuable ores, is unimportant. The productive deposits are, however, only of comparatively recent discovery. Platinum was traced in 1878 in the auriferous sands on the northern beaches, and in 1894 the beach sands of the Evans River were investigated, small quantities of platinum having been obtained from these beach deposits. On the Fifield gold-field, in the Parkes district, the metal is found associated with the gold in washdirt. The platinum occurs in coarse, shotty grains.

The following table shows the quantity and value of platinum won in New South Wales during the last ten years:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	oz.	£		oz.	£
1906	205	623	1911	470	2,999
1907	276	1,014	1912	610	3,880
1908	135	439	1913	442	3,135
1909	440	1,720	1914	244	2,129
1910	332	1,418	1915	56	476

The quantity of platinum produced to the end of 1915 was 13,732 oz., valued at £34,750.

Iridium and osmium are metals closely allied to platinum; their occurrence has been noted in the alluvia of the gold-fields and in the sands at Bingara, Mudgee, Bathurst, and other places.

CHROMITE.

Chromite, or chromic iron ore, is the only commercially important ore of chromium which is an accessory constituent of a variety of minerals; it has been found usually associated with serpentine in the northern portion of New South Wales.

The chrome mining industry dates from 1882, the first attempt being made at the Peel River, but the low prices obtainable and the difficulty of transportation prejudicially affected the industry. The quantity produced during 1899—5,243 tons, valued at £17,416—is the highest recorded as the annual output. In 1900 the production fell to 3,285 tons, valued at £11,827, the decrease being due to the exhaustion of the smaller deposits. During 1907, 30 tons, valued at £105, were used in the lining of furnaces. The mines were not worked again till 1911, when 150 tons, valued at £300, were raised; in 1914 the output was 649 tons, valued at £649; and in 1915 the quantity of chrome ore raised was 638 tons, valued at £1,600. The whole of the production came from the Barraba Division. The total production to the end of 1915 was 32,622 tons, valued at £104,217.

COBALT AND NICKEL.

Cobalt and nickel are usually associated in the same minerals, and traces of both metals have been found in several districts in New South Wales, but workable quantities have been located in very few places.

Deposits of cobaltiferous minerals have been found at Bungonia, Carcoar, and Port Macquarie; but the market for the metal is small. The only deposits worked during recent years are at Port Macquarie, where the ore occurs in nests or pockets in serpentine and the overlying clays resulting from its decomposition; but the irregularity of occurrence prohibits profitable working, and operations were discontinued in 1904. An average sample assayed cobalt oxide 7.48, and nickel oxide 2.39 per cent. The output of cobalt during 1910 was valued at £55, the ore being obtained from an abandoned site at Bungonia. During the last five years no ore was raised, and the value of the total production to the end of 1915 was £8,065, representing 885 tons of ore. No production of nickel is recorded.

MERCURY.

Cinnabar, the most important ore of mercury, occurs in numerous localities in New South Wales, but it has not been discovered in a sufficiently concentrated form to enable it to be profitably wrought. In 1869 a deposit near Rylstone was opened up, but extensive prospecting operations met with little success. Cinnabar has been discovered also at Bingara, Orange, and Broken Hill, and at Woolgoolga, Yulgilbar, and Pulganbar, in the North Coast division; recent operations have been confined to the last-mentioned two fields.

The total production of quicksilver to the end of 1915 was 2,298 lb., valued at £361.

There is a considerable demand for mercury on account of its use in the metallurgy of gold and silver, especially in the recovery of gold by amalgamation.

As an encouragement in the search for quicksilver ores, the Government of New South Wales has offered a reward of £500 for the production of 50,000 lb. of quicksilver from domestic ores.

At Pulganbar about 200 tons of ore were raised in 1915, and sent to the reducing plant. It is estimated to yield $1\frac{1}{2}$ tons of mercury, worth £572. 680 tons of material in course of treatment at the close of 1914 were cleaned up in 1915 for a return of $11\frac{1}{2}$ cwt. of mercury, valued at £234.

From Ewengar Quicksilver Mine 200 tons of ore were raised, 8 tons of which were sent for treatment to the Pulganbar Reduction Works.

OTHER METALS.

A specimen of uranium ore was found some years ago in the dump at the old cobalt workings at Carcoar, and again, in 1912, radio-active ores were noted, but no exploratory work has been done.

Tellurium has been discovered at Bingara and other parts of the northern districts, as well as at Tarana, on the Western railway line, though at present only in small quantities, which would not repay the cost of working. It has been found also at Captain's Flat in association with bismuth.

Selenium has been discovered at Mount Hope in association with bismuth, while tantalum has also been located in the State.

Aluminium is not included in the specified mineral output, but, in view of its constantly increasing use in manufactures, it is interesting to note

that the ores from which it is made occur in great abundance in New South Wales. All clays are composed mainly of hydrous silicate of alumina, and these are of common occurrence, but the metal may be obtained at less cost from some other minerals.

Bauxite, which is considered the most suitable mineral for the manufacture of aluminium and its alloys in commercial quantities, has been located in extensive deposits at Wingello, in the county of Camden, and in the Inverell and Emmaville districts. It is of volcanic origin, and is generally found capping small hills. Near Inverell bauxite has been used extensively for making roads, with very satisfactory results. Alunite also contains a high percentage of alumina, but the yield obtained in New South Wales is used chiefly in the manufacture of alum.

SMELTING AND REFINING.

Information in regard to smelting and ore dressing is given in connection with that section of the Manufacturing Industry of this Year Book which relates to metal works and machinery.

COAL.

The coal-fields of New South Wales are of much greater importance as to area and as to quality of the coal than in any other part of Australia. The coal-bearing rocks within the State have been classified as follows:—

Geological Age.	Maximum Thickness of Coal-bearing Strata (approximate).	Locality.	Character of Coal.
	ft.		
Tertiary—Eocene or Pliocene.	100	Kiandra, Gulgong, Chouta Bay, &c.	Brown-coal or lignite.
Mesozoic—Triassic or Trias-Jura.	2,500	Clarence and Richmond Rivers.	Suitable for local use only.
Palæozoic—Permo-Carboniferous.	13,000	Northern, Southern, and Western Coal-fields.	Suitable for gas-making, steam-raising, and household use.
Palæozoic—Carboniferous.	10,000	Stroud, Bullahdelah ...	Inferior.

The coal deposits of the Tertiary rocks, which have been found in the deep alluvial leads of many of the gold-fields, are not of any commercial value.

The Mesozoic coal measures occupy a considerable area in the Clarence River basin, and extend into Southern Queensland, where valuable seams are worked at Ipswich. Within New South Wales, however, the seams are thin, and interspersed with shale bands. The Clarence River coal is remarkably free from sulphur, and comparatively smokeless; it contains a large proportion of fixed carbon, but on account of the high percentage of ash it is not of commercial value, and is suitable only for local use.

The Permo-Carboniferous rocks, which contain the productive coal seams, are estimated to extend over an area of 28,000 square miles, north, west, and south of Sydney, the coal measures occupying about 16,550 square miles. It is impossible to determine the quantity of available fuel in these measures, but it has been estimated by the Government Geologist that, within a depth of 4,000 feet, there are 115,347 millions of tons of coal. This estimate allows for one-third loss in working, impurities, &c.

The main coal basin extends along the coast from Port Stephens on the north, to Ulladulla on the south, and thus has a seaboard of 200 miles, which enhances the value of the deposits by conducing to easy shipment and the development of oversea trade. From Ulladulla the basin trends inland to the west, and north-west as far as Rylstone, whence the boundary line extends northward beyond Gunnedah, and then runs in a south-easterly direction to Port Stephens. The widest part of this area is between Rylstone and Newcastle—100 miles; the basin is deepest in the neighbourhood of Sydney, where the uppermost seam is nearly 3,000 feet below the surface.

From Sydney the measures rise gradually in all directions, and emerge to the surface at Newcastle on the north, at Bulli in the Illawarra district to the south and at Lithgow in the Blue Mountain region to the west.

The Permo-Carboniferous rocks have been classified in descending order as follows:—

Classification.	Thickness.	Coal Content Workable (approximate).
	feet.	feet.
1. Upper or Newcastle Coal Measures	1,400–1,500	35–40
2. Dempsey Series (freshwater beds)	2,200	.....
3. Middle, or Tomago, or East Maitland, Coal Measures... ..	500–1,800	18
4. Upper Marine Series... ..	5,000–6,400	.....
5. Lower or Greta Coal Measures	100–300	20
6. Lower Marine Series... ..	4,800	.....

The upper or Newcastle coal measures show the greatest surface development. Their seams outcrop at Newcastle, Bulli, and Lithgow, and extend continuously under Sydney, the deepest portion of the basin.

In the northern coal-field twelve seams have been discovered in these measures, five being worked; in the southern, five distinct seams are known, but two only have been worked; of the seven seams traced in the western field three only have proved of commercial value. After many unsuccessful boring operations, the uppermost seam of the Newcastle measures was located under Sydney Harbour in 1891, and is now worked at a depth of nearly 3,000 feet.

The coal obtained at Newcastle is specially suitable for gas making and for household use; the coal from Bulli and Lithgow is essentially steam coal—the southern produces a strong coke, specially suitable for smelting purposes by reason of its capacity for sustaining the weight of the ore burden in a blast furnace, and it contains less ash than the western. The coal obtained at the Sydney Harbour Colliery is also a good steam coal, and may be loaded direct into oversea steamers from a wharf near the pit's mouth.

In the western and southern fields the upper coal measures contain deposits of kerosene shale, a variety of torbanite, cannel coal, or boghead mineral. It is used extensively for the manufacture of kerosene oil, and for the production of gas. Deposits of kerosene shale, though much less extensive, occur in the upper and Greta measures of the northern coal-field.

The middle coal measures outcrop near East Maitland, but do not appear in the western field; their occurrence in the southern field has not been definitely proved.

The lower or Greta measures outcrop over an irregular area in the neighbourhood of Maitland, and have been traced with intervening breaks as far north as Wingen; they occur as an isolated belt to the north of Inverell, and extend through Ashford, almost to the Queensland border. These measures have been located in the Clyde Valley, in the extreme southern portion of the Illawarra field, but do not occur in the western. The coal of the Greta

measures is contained in two seams, and is the purest and generally the most useful obtained in the State, being of good quality, hard, and economical as regards working. The Greta seams are worked extensively between West Maitland and Cessnock, in the most important coal-mining district in Australia.

Production of Coal.

The following table shows, in quinquennial periods since 1880, the quantity and value of coal raised in New South Wales from the earliest record to the close of 1915, the total production being 211,849,775 tons, valued at £80,020,454.

The figures are exclusive of coal used in the manufacture of coke, particulars as to which are quoted elsewhere in this chapter:—

Period.	Quantity.	Value at Pit's Mouth.	Average per ton.
	tons.	£	s. d.
Prior to 1880	20,697,747	11,036,723	10 8
1880-4	10,615,625	4,672,569	8 10
1885-9	15,490,611	7,077,864	9 2
1890-4	17,830,177	6,811,568	7 8
1895-9	21,334,976	6,048,281	5 8
1900-4	29,792,589	10,369,050	7 0
1905-9	39,083,328	13,234,796	6 9
1910	8,173,508	3,009,657	7 4
1911	8,691,604	3,167,165	7 3
1912	9,885,815	3,660,015	7 5
1913	10,414,165	3,770,375	7 3
1914	10,390,622	3,737,761	7 2
1915	9,449,008	3,424,630	7 3

Owing to war conditions the export of coal during the years 1914 and 1915 has been greatly restricted; the production, however, on account of increased "home consumption" did not decrease as much as was expected.

The following statement shows the quantity of New South Wales coal consumed in Australia, including bunker coal taken by interstate vessels, and the oversea exports, during the last nine years.

Year.	Consumed within Commonwealth.			Exported to Countries outside the Commonwealth.	Total Production.
	Domestic Consumption	Sent to other Australian States.	Total.		
	tons.	tons.	tons.	tons.	tons.
1907	2,914,417	2,019,959	4,934,376	3,723,548	8,657,924
1908	3,048,349	2,267,218	5,315,567	3,831,458	9,147,025
1909	2,626,276	1,814,705	4,440,981	2,578,898	7,019,879
1910	3,483,075	2,098,742	5,581,817	2,591,691	8,173,508
1911	3,667,524	2,149,630	5,817,154	2,874,450	8,691,604
1912	3,832,697	2,514,970	6,347,667	3,538,148	9,885,815
1913	4,182,441	2,762,186	6,944,627	3,469,538	10,414,165
1914	4,522,589	2,719,677	7,242,266	3,148,356	10,390,622
1915	4,780,614	2,601,070	7,381,684	2,067,324	9,449,008

The variation in the proportion of the total production used for domestic consumption is shown in the following percentages:—

Year.	Proportion of Output.		
	Used for Domestic Consumption.	Sent to other Australian States.	Exported to Countries outside the Commonwealth.
	Per cent.	Per cent.	Per cent.
1906	34·94	24·95	40·11
1907	33·66	23·33	43·01
1908	33·32	24·79	41·89
1909	37·41	25·85	36·74
1910	42·61	25·68	31·71
1911	42·20	24·73	33·07
1912	38·77	25·34	35·89
1913	40·16	26·52	33·32
1914	43·53	26·17	30·30
1915	50·59	27·53	21·88

Coal Exports.

The proportion of the production consumed in Australia in 1915 was 78 per cent., and the overseas exports amounted to 22 per cent.; the local consumption is advancing with the growth of population, the increasing use of electric-power plants, the extension of railways, manufactures, smelting, and other industries, and the multiplication of gas works. The quantity exported to overseas countries since the year 1910 is shown below; only the coal taken as cargo has been included:—

Country.	1910.	1911.	1912.	1913.	* 1914.	† 1915.
	tons.	tons.	tons.	tons.	tons.	tons.
New Zealand	228,023	211,160	387,391	477,605	252,052	357,298
Fiji	36,267	32,453	30,256	35,386	15,442	43,598
Straits Settlements ...	140,620	131,029	113,376	155,393	132,174	84,100
India	67,763	38,165	123,330	63,324	17,033	80,699
Hong Kong	9,584	.....	294	.....	3,000	1,457
Mauritius	5,020	.....	3,243	416	753	10,579
Canada ... ..	.....	.....	53	16,538	.....	2,082
United Kingdom ... ..	.....	.....	30	81	21	6,857
Papua	404	.....	1,185	2,709	1,237	6,150
Ocean Island	621	4,631	5,906	6,211	2,463	2,062
Other British Possessions	947	1,530	7,141	.....	6,607	496
Total, British Possessions	489,249	419,968	672,205	757,663	430,782	595,378
Chile	553,302	619,806	850,017	688,578	320,674	236,017
United States of America	202,474	180,769	103,609	93,755	68,441	105,623
Philippine Islands ...	199,509	156,280	104,570	49,502	32,940	94,602
Hawaiian Islands ...	64,016	53,201	61,979	87,518	41,952	80,182
Peru	41,796	64,559	65,447	53,926	20,476	21,558
Java	92,343	134,742	211,316	267,382	188,505	169,073
Mexico	20,202	22,659	20,858	44,629	27,559	8,244
New Caledonia	7,712	16,683	21,706	12,329	7,307	15,124
South Sea Islands ...	1,825	870	1,273	13,623	3,556	.....
Ecuador	6,927	4,235	9,876	8,433	12,362	30,497
China	2,105	6,125	788	1,553	421	.....
Other Foreign Countries...	18,724	6,585	26,956	18,206	7,562	14,691
Total, Foreign Countries	1,210,935	1,266,514	1,478,395	1,339,434	731,755	775,611
Total, Export Oversea	1,700,184	1,686,482	2,150,600	2,097,097	1,162,537	1,370,989

* Half-year ended 30th June. † Year ended 30th June.

The largest exports are to New Zealand, Chile, Java, the United States of America, Philippine Islands, the Straits Settlements, India, and the Hawaiian Islands, in the order mentioned.

Coal—Divisional Records.

Northern District.—It has been shown that the northern coalfield contains all three systems of the coal measures, viz.:—Upper or Newcastle, East Maitland or Tomago, and Lower or Greta.

In the vicinity of Newcastle the recently-proved upward rise of the working seams, towards the bed of the ocean, means a definite restriction on the coal supplies available from that locality, and a curtailment of the lives of several mines, as the coal workings beneath the ocean-bed must have a minimum cover of 120 feet of solid rock.

In nearly all these collieries coal-cutting machines are in use. Geologically, the seams on this area are thick, varying, over many thousand acres, between 15 and 33 feet; the commercially workable portions of the seams average 13 feet.

Including the Sydney Harbour Colliery, 82 collieries were in operation in the Northern district during 1915, the quantity of coal raised being 6,307,015 tons, and the value £2,397,833.

The following table shows the growth of the coal industry in the Northern district within the last ten years; the number of men employed and the quantity of coal raised have increased steadily during the period:—

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1906	11,005	8,478	5,336,188	629	1,718,178	6 5	203
1907	12,486	9,692	6,058,580	625	2,231,901	7 4	230
1908	13,228	10,064	6,511,002	647	2,625,446	8 1	261
1909	13,286	10,102	4,801,361	475	1,990,217	8 3	197
1910	12,626	9,404	5,366,975	571	2,178,953	8 1	232
1911	12,334	8,769	5,793,646	661	2,320,673	8 0	265
1912	12,816	9,231	6,913,810	749	2,798,764	8 1	303
1913	13,469	9,959	7,402,627	743	2,892,256	7 10	290
1914	14,046	10,435	7,113,991	682	2,734,872	7 8	262
1915	12,557	9,199	6,307,015	685	2,397,833	7 7	261

Southern District.—Owing to the demand for southern coal for steam purposes, the trade of this district has greatly improved during recent years, and the increase would doubtless have been more pronounced but for the difficulty experienced in loading vessels. To remove this drawback, the Government is making a harbour at Port Kembla, a few miles south of Wollongong, which, when complete, will enclose an area of 334 acres.

Detail geological survey work is proceeding in the Southern district with a view to greater development. The production during the last ten years is shown in the following table, 23 mines being in operation during 1915:—

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1906	3,249	2,540	1,783,395	702	494,871	5 7	195
1907	3,410	2,671	1,835,425	687	515,786	5 7	193
1908	3,587	2,863	1,929,236	674	570,022	5 11	199
1909	3,818	2,999	1,619,675	540	485,300	6 0	162
1910	3,894	3,024	1,875,009	620	576,261	6 2	191
1911	3,889	2,995	2,066,621	690	636,163	6 2	212
1912	3,953	3,030	2,172,800	717	661,512	6 1	218
1913	4,256	3,299	2,081,472	631	638,425	6 1	194
1914	4,590	3,652	2,362,741	647	749,395	6 4	205
1915	4,267	3,361	2,261,398	673	784,316	6 11	233

Western District.—The output from this district has expanded largely during the period under review, the increase being due to more regular work, and to the absence of labour troubles. In the early part of 1910 the coal from this district was in great demand, as mines in the other districts were closed.

The average quantity of coal raised per miner is much greater in the Western collieries than elsewhere in the State. This is due to a variety of causes, but chiefly to the greater thickness of the seams, the friable character of the coal, and the accessibility of the coal beds. In some cases the coal is worked by means of adits or tunnels, so that the facilities for winning the mineral are much greater than in the Newcastle mines where shafts must be sunk in most instances. But though the output is greater per miner than in the other coal-mining districts, the price for hewing is lower, so that the earnings of the individual miner do not differ greatly wherever the mine is located.

Situated in close proximity to the principal iron-fields of New South Wales, the prospects of these mines in the Western District are extremely favourable since the manufacture of iron from the ore is carried on in this part of the State. During 1915 there were 21 mines in operation in this District, and in the following table is shown the growth of coal production during the last ten years.

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1906	675	570	506,779	889	124,178	4 11	218
1907	1,184	1,006	763,919	759	174,732	4 7	174
1908	919	737	706,787	959	157,625	4 6	214
1909	1,064	814	598,843	736	143,079	4 9	175
1910	1,098	862	931,524	1,081	254,443	5 6	295
1911	1,152	915	831,337	909	210,329	5 1	230
1912	1,026	828	799,205	965	199,739	5 0	241
1913	1,118	906	930,066	1,026	239,694	5 2	265
1914	1,122	920	913,890	993	253,494	5 6	276
1915	1,135	916	880,595	961	242,481	5 6	265

Summary—New South Wales.

In New South Wales, calculated on the total value of the production during the decade, the average quantity of 666 tons extracted yearly by each person employed underground represents a value of £238. In 1915 the average value of production was £254 for each person employed below ground.

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1906	14,929	11,588	7,626,362	658	2,337,227	6 2	202
1907	17,080	13,369	8,657,924	648	2,922,419	6 9	219
1908	17,734	13,664	9,147,025	669	3,353,093	7 4	245
1909	18,168	13,915	7,019,879	504	2,618,596	7 5	186
1910	17,618	13,290	8,173,508	15	3,009,657	7 4	226
1911	17,375	12,679	8,691,604	686	3,167,165	7 3	250
1912	17,795	13,089	9,885,815	755	3,660,015	7 5	280
1913	18,843	14,164	10,414,165	735	3,770,375	7 3	266
1914	19,758	15,007	10,390,622	692	3,737,761	7 2	250
1915	17,959	13,476	9,449,008	701	3,424,630	7 3	254

Coal-cutting by Machinery.

The machine-cut coal in 1915 represented 30 per cent. of the total output. Of the machines in use, 100 were classed as Percussive and 172 as Chain-breast; 172 were driven by electricity and 100 by compressed air.

Following are the records of machines operating and coal obtained during the last five years:—

Year.	Machines driven by—			Coal obtained by machines driven by—		
	Electricity.	Compressed Air.	Total.	Electricity.	Compressed Air.	Total.
				tons.	tons.	tons.
1911	128	74	202	2,074,767	562,905	2,637,672
1912	135	79	214	2,189,968	706,644	2,896,612
1913	153	80	233	2,203,265	633,451	2,836,716
1914	163	80	243	2,264,010	511,911	2,775,921
1915	172	100	272	2,162,726	654,346	2,817,072

State Coal Mines.

The State Coal Mines Act, 1912, empowers the Government to purchase or resume coal-bearing lands or coal mines and to open and work coal mines upon Crown land or private land containing coal reserved to the Crown.

The coal obtained from a State mine is to be used only by the State Departments.

Prices of Coal.

The average price of coal per ton in the various districts for the last ten years is shown below; in the average for New South Wales, allowance has been made for the quantity raised in each district:—

District.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Northern ...	6 5	7 4	8 0	8 3	8 1	8 0	8 1	7 10	7 8	7 7
Southern ...	5 7	5 7	5 11	6 0	6 2	6 2	6 1	6 1	6 4	6 11
Western ...	4 11	4 7	4 6	4 9	5 6	5 1	5 0	5 2	5 6	5 6
New South Wales	6 2	6 9	7 4	7 5	7 4	7 3	7 5	7 3	7 2	7 3

Proximate Analyses.

Proximate analyses have been made of 194 thoroughly representative samples of coal taken during the three months September-November, 1911, from all the collieries then working in the State. In the larger collieries, at least two samples were taken from working faces as far apart as possible, and in many cases samples were taken also from portions of seams not then being worked.

In the following statement are presented the results of these proximate analyses for the various districts of New South Wales:—

Districts.	Coal Measure.	Samples.	Composition.				Sulphur.	Calorific Value.
			Hygroscopic Moisture.	Volatile Hydrocarbons.	Fixed Carbons.	Ash.		
		No.	per cent.	per cent.	per cent.	per cent.	per cent.	
Northern	Upper, Newcastle	78	2·01	36·01	53·27	8·71	0·468	12·7
„	Middle, Tomago ...	5	1·88	35·71	52·77	9·64	1·185	12·5
„	Lower, Greta ...	51	1·84	41·61	49·52	7·03	1·291	13·1
Southern	Upper ...	35	0·71	23·65	63·98	11·66	0·470	12·7
Western...	Upper ...	25	2·05	32·31	53·08	12·56	0·672	11·9

The average composition of thirty-one samples of coal from seams actually being worked in the Greta coal measures was shown as follows:—

							Per cent.
Hygroscopic Moisture	...	...	...	...	...	...	1·89
Volatile Hydrocarbons	...	...	...	...	...	...	41·35
Fixed Carbons	...	...	...	...	...	...	50·51
Ash	...	...	...	...	...	...	6·25
							100·00
Sulphur	...	...	...	...	...	...	1·014
Calorific Value	...	...	...	...	...	...	13·2

Coal Dust Committee.

In November, 1913, a Committee was appointed by the Government to consider what means could best be adopted to prevent explosions of coal dust being initiated and afterwards carried through the workings of the collieries.

The following is a synopsis of the recommendations of the Committee:—Where coal dust is carried from the surface by the intake air, the exhaust system by means of pipes and fans was recommended as the most efficient.

The value of watering full coal tubs as a means of prevention was recognised, but the use of stone or incombustible dust was considered as superior.

To minimise the deposit of coal dust on underground roads, colliery managers were advised to keep the coal tubs in repair.

After their reliability and efficiency have been established, electric safety lamps should be used. Ordinary safety lamps should be used by officials for the purpose of detecting inflammable gas, and regular searches should be made to prevent prohibited articles such as matches, tobacco, &c., being taken into the mines.

Special provisions were laid down regarding blasting and shot firers, and to prevent the use of explosives which may have been subjected to chemical changes, the erection of a Government Testing Station was recommended.

It was also recommended that electricity, as a motor power, should be prohibited at, or near, the working faces or in the return airways of collieries where firedamp is given off in such quantity as to be indicative of danger.

COKE.

The quantities of coke manufactured in New South Wales during the last ten years were as follows:—

Year.	Quantity.				Total Value at Ovens.
	Northern District.	Southern District.	Western District.	Total.	
	tons.	tons.	tons.	tons.	£
1906	55,991	130,069	.....	186,060	110,607
1907	31,453	210,614	12,542	254,609	159,316
1908	29,132	228,778	25,963	283,873	199,933
1909	23,564	155,443	25,267	204,274	137,194
1910	24,352	207,760	50,225	282,337	189,069
1911	26,376	201,451	36,860	264,687	184,337
1912	27,217	193,893	20,049	241,159	162,454
1913	29,659	239,183	29,770	298,612	208,989
1914	28,264	252,409	24,127	304,800	213,069
1915	84,134	305,584	28,035	417,753	313,241

' The various districts contributed as follows to the total value of coke manufactured during the year 1915:—Northern, £79,168; Southern, £212,445; Western, £21,628.

Since 1890, when the value per ton of coke at the ovens was £1 6s. 5d., the price has fallen gradually. The variations in the last twenty-one years are shown in the following table:—

Year.	Price per Ton.	Year.	Price per Ton.	Year.	Price per Ton.
	s. d.		s. d.		s. d.
1895	17 10	1902	14 2	1909	13 5
1896	16 7	1903	13 7	1910	13 5
1897	14 1	1904	12 11	1911	13 11
1898	15 7	1905	12 4	1912	13 6
1899	16 0	1906	11 11	1913	14 0
1900	17 4	1907	12 6	1914	13 11
1901	16 5	1908	14 1	1915	15 0

In 1915 the average values per ton at the ovens were—Northern, 18s. 9d.; Southern, 13s. 11d.; Western, 15s. 5d.

Coke-making is carried on in each of the three coal-mining districts of the State, but the bulk of the output comes from the southern district, where it is manufactured from coal drawn from the mines in the locality of Wollongong.

All the coke produced is suitable for use in blast furnaces, but the products of the northern and southern districts are harder, better able to carry a load in the furnace, and contain less ash than the coke of the western district. The plants in the southern district being closer to Sydney, have advantage in railway transit of a lower transport cost than the plants in the northern and western districts.

The following statement shows the number of coke ovens, and the persons engaged in the manufacture of coke in each district during 1915:—

District.	Coke Ovens.				Persons engaged in manufacture of coke.
	Working.	Built, but not Working.	In course of Building.	Total Number.	
Northern ...	209	90	33	332	198
Southern ...	512	8	10	530	361
Western ...	112	120	15	247	80
Total ...	833	218	58	1,109	639

OIL SHALE.

Discovery.

Oil-bearing "shale" is found at a number of localities in New South Wales. It has been worked principally at Hartley, Katoomba, Torbane (Airly), Joadja Creek (Mittagong), Mount Kembla, Greta, Colley Creek (Murrurundi), in the Capertee, Jamieson, and Wolgan Valleys. The shale occurs in the same manner as seam coal, but the deposits are confined to smaller areas, the largest hitherto discovered not exceeding 1 mile in length, and varying in thickness from a few inches to 6 feet. Frequently the upper and lower portions of a seam are composed of bituminous coal, the kerosene shale being confined to the central band. The shale is really torbanite or cannel-coal, similar to the boghead mineral of Scotland, but yielding a much larger percentage of volatile hydro-carbon. Its discovery in New South Wales antedated by many years the Scotch discovery which brought the oil-bearing minerals into prominence, the Hartley deposits being located about 1824; in 1854, the

natural and industrial products of New South Wales, at the Paris Exhibition, included a sample of brown coal or lignite, highly inflammable, found near Hartley. Again, in 1862, at the London International Exhibition, a combustible schist from Murrurundi, and a bituminous schist from Hartley were exhibited. The first effort to distil oil and other products from the oil-bearing mineral was made in 1865 at Stony Creek, Maitland district. Thereafter, samples of minerals from many localities were investigated, and the question of oil production attracted commercial interest.

Supplies and Quality.

Quantitative estimation of possible kerosene shale supplies in New South Wales is hampered by irregularity of form and capriciousness of occurrence of the known deposits. The remarkable feature about the geographical distribution of deposits is their marginal occurrence in relation to the coal-bearing area, and the comparative abundance of the typical kerosene shale as compared with other countries, *e.g.*, France and Scotland. The known deposits are all in the vicinity of railway lines, and the geological range of kerosene shale may be gathered from the table given previously in connection with the Permo-Carboniferous rocks in the State.

Every known deposit in this State has been discovered by its shed or slipped blocks, and the diamond-drill is the best adapted boring tool for locating the shale, the physical characteristics of which show a wide range; colour varies from brownish to greenish-black, with a streak yellowish to brown, and a lustre dull to satiny in highest grades, and disappearing proportionately with the depreciating quality. The texture also is exceptionally fine, almost amorphous, approaching vulcanite in appearance in the richest grades, and showing coarseness and roughness with depreciation. The shale fractures conchoidally across the planes of bedding, but is capable of being easily split, approximately along planes of deposition, so facilitating trimming and removal. Fusibility varies with the grade of material.

The richest shale at the Joadja Mine, near Mittagong, yields about 130 gallons of crude oil per ton, or about 15,400 cubic feet of gas, with an illuminating power equal to forty-eight sperm candles when gas only is extracted from the shale; it has a specific gravity of 1.098, while the best shale from Hartley Vale yields from 150 to 160 gallons of crude oil, or 18,060 cubic feet of gas of 40 candle-power per ton. Its specific gravity is 1.06, the amount of sulphur 0.49 per cent., and the yield of tar 40 gallons per ton. The shale is suitable for mixing with ordinary coal in the manufacture of gas, and is exported to Great Britain, America, and other countries, as well as to the neighbouring States.

Production of Oil Shale.

The production of oil shale, from the opening of the mines in 1865 to the end of 1915, is shown in the following table:—

Period.	Quantity.	Total Value at Mines.	Average Price per ton at Mines.	Year.	Quantity.	Total Value at Mines.	Average Price per ton at Mines.
	tons.	£	£ s. d.		tons.	£	£ s. d.
1865-84	370,217	828,194	2 4 9	1910	68,293	33,896	0 9 11
1885-89	186,465	406,255	2 3 7	1911	75,104	36,980	0 9 10
1890-94	247,387	451,344	1 16 6	1912	86,018	34,770	0 8 1
1895-99	191,763	222,690	1 3 3	1913	16,985	7,339	0 10 9
1900-04	213,163	177,246	0 16 8	1914	50,049	27,372	0 10 11
1905-09	213,024	131,456	0 12 4	1915	15,474	12,890	0 16 8

The small output in 1913 was due to the fact that no shale was obtained from the Wolgan and Capertee Mines, owned by the Commonwealth Oil Corporation, and the works of the British Australian Oil Company were closed down for the greater portion of the year, while only a small quantity of shale was raised from their Temi Mine at Murrurundi. Of the total production in 1914, the mine of the British Australian Oil Coy. accounted for 46,315 tons, the remainder, 3,734 tons being obtained from the Commonwealth Oil Corporation's Mine. The decreased output in 1915 was caused by the closing down of the Temi Mine at Murrurundi and the intermittent working of mines in the Western district.

The Shale Oils Bounties Act, passed by the Commonwealth Government during 1910, made provision for the payment of bounties on the manufacture of kerosene and paraffin wax from Australian shale, under the following conditions:—

Description of Product.	Rate of Bounty.	Maximum amounts which may be paid during the year 1910-11.	Maximum amounts which may be paid during each of the years 1911-12 and 1912-13.	Date of Expiry of Bounty.
Kerosene, the product of shale, having a flashing point of not lower than 73 degrees Fahrenheit	2d. per gallon	£ 8,000	£ 16,000	} 30th June, 1913.
Refined Paraffin Wax	2s. 6d. per cwt.	£ 2,000	£ 4,000	

The following statement shows the total amount of bounties paid in New South Wales under the Shale Oils Bounties Act:—

Description of Product.	Quantity on which Bounty was paid.			Amount of Bounties paid.		
	1911.	1912.	1913.	1911.	1912.	1913.
Kerosene, the product of shale, having a flashing point of not lower than 73 degrees Fahrenheit	gals. 178,920	gals. 482,050	gals. 118,236	£ 1,491	£ 4,017	£ 985
Refined Paraffin Wax	cwt. 6,256	cwt. 6,760	cwt. 6,480	£ 782	£ 848	£ 809

The Shale Oils Bounties Act expired on 30th June, 1913, and was not renewed. Consequently no bounties have been paid since.

The products derivable from kerosene shale vary, according to the temperature and methods of distillation and refining, from heavy lubricating greases and solid paraffins, machine and burning oils, to volatile, naphthaline, gasoline, and permanent gases. In New South Wales oil for the enrichment of water gas, paraffin, and lubricating grease have constituted the principal products prepared, but the value of oil as fuel, in comparison with coal, chiefly in connection with shipping, has so much appreciated in recent years that many steamships trading to this State have been fitted to use oil-fuel, and consequently the demand for the local product should increase considerably. Large quantities of oil manufactured at Hartley Vale have been supplied to the Australian war-ships.

As regards the possibility of locating oil springs in Australia, the absence of any recognisable evidence of oil-bearing strata in the Palæozoic systems of New South Wales induces speculation as to the possibility of locating such strata, *e.g.*, in the north-west, in areas not yet tested by artesian water bores. In several bores, notably the abandoned artesian bore at Grafton, in the Clarence series, a considerable flow of natural gas has been liberated, and petroleum has been recognised, especially in dry seasons.

DIAMONDS.

Diamonds and other gem-stones in New South Wales were noted as early as 1851 by both Hargraves and Stutchbury, and have since been found to be widely distributed, but no extensive industry has yet been developed, mining operations being restricted to a very few localities. Diamonds occur in old Tertiary river drifts, and in the more recent drifts derived from them. The deposits in the Inverell, Bingara, Mittagong, Cudgegong, Delegate, and Narrabri districts are extensive, but have not yet been thoroughly prospected, the stones found being usually discovered by miners engaged in washing alluvial gravels for gold. The finest of the New South Wales diamonds are harder and whiter than the South African diamonds, and are classified as on a par with the best Brazilian gems. Till 1904 only small stones were obtained, the largest recorded weighing $6\frac{1}{4}$ carats, and though many thousand stones were obtained at Bingara and Cope's Creek, the absence of large-sized stones raised doubts as to whether gems of sufficient value would be obtained to render the industry profitable. However, during 1905, at Werong, 30 miles from Oberon, a fine straw-coloured flawless stone was found weighing $28\frac{5}{8}$ carats. Sapphires and zircons are numerous in the wash where this diamond was discovered. During 1904 diamonds were discovered at Oakey Creek, locality of Inverell, embedded in solid dolerite, this being the first known instance of dolerite having been found in any part of the world as the matrix of the diamond.

The following table, compiled from the available information, is believed to understate considerably the actual output of diamonds in New South Wales. The majority of the diamonds have been obtained from the mines in the Bingara and Copeton districts; in recent years the whole output is from the latter district.

Period.	Carats.	Value.	Period.	Carats.	Value.
		£			£
1867-1885	2,856	2,952	1906-1910	16,651	12,374
1886-1890	8,120	6,390	1911	5,771	4,064
1891-1895	19,743	18,245	1912	2,240	2,001
1896-1900	69,384	27,948	1913	5,573	5,141
1901-1905	54,206	46,434	1914	1,580	1,440
			1915	839	707

The industry in 1915 was practically at a standstill owing to the absence of a market. The yield obtained was won whilst mining for stream tin in old river beds.

OPAL.

Common opals occur in many parts of New South Wales, and particularly in the locality of Orange. The precious or noble opal has been found in two geological formations in New South Wales, viz., in vesicular basalt and in sedimentary rocks of the Upper Cretaceous age. Only from the latter formation have gems in quantity and value been obtained hitherto, the finest opal known being located in the Upper Cretaceous formation at White Cliffs, near Wilcannia. The following table shows the estimated value of precious opal won in New South Wales to the end of 1915:—

Period.	Value.	Period.	Value.
	£		£
1890	15,600	1911	57,300
1891-1895	25,999	1912	35,008
1896-1900	415,000	1913	29,493
1901-1905	476,000	1914	26,534
1906-1910	305,300	1915	6,403

The first discovery of precious opal was made in the vicinity of the Abercrombie River in 1877, but the most important find was at White Cliffs in 1889.

In 1896, opal was discovered at Purnanga, about 40 miles north-east of White Cliffs, but the scarcity of water has retarded development. Some very fine parcels of stone have been raised in this locality, and it is considered that Purnanga is the nucleus of a fine opal field should a good water supply become available. A field more recently opened up, Lightning Ridge, near the Queensland border, and known as "Wallangulla," produces black opal remarkable for colour, fire, and brilliancy.

The output during 1915 from the Lightning Ridge field was valued at £4,076, and from White Cliffs £2,327.

Since 1907 the market price for this gem-stone has decreased. During 1912 rich finds were reported from Lightning Ridge, and prospecting was carried on vigorously. There was a ready demand for opal of all grades, the good black variety commanding the highest price. Most of the opals obtained in 1915 are being held for future sale, as owners prefer to wait for the better prices which will be secured when the new and important markets of England, France, and America are developed. An encouraging feature is the increasing demand for low-grade opal for the button trade. This class of opal was formerly considered valueless, but if the demand continues it should have a stimulating effect on the industry, as the supply is large.

BERYL AND CORUNDUM AND OTHER GEM STONES.

The emerald is a variety of beryl. So also is the aquamarine. In 1890 emeralds were located in a deposit originally taken up for tin in the vicinity of Emmaville. The emeralds were intercrystallised with topaz, and had a specific gravity of 2.67; beryl has also been found at Elsmore in association with quartz and tinstone; in the locality of Wellington in association with felspar, quartz, and mica; and in alluvial deposits, as at Tingha and Cope's Creek. After the occurrence of emeralds at Emmaville was recognised, a trial shipment of 2,225 carats was sent to London,

and some of the gems realised £4 per carat. In 1891 and 1892, gems to the extent of 25,000 carats were raised in each year. Thenceforward, except in 1908, when 1,000 carats of emeralds, valued at £1,700, were obtained in the same locality of The Glen, in the Emmaville division, no further production was recorded. The largest stone in the rough weighed 60 carats.

Varieties of pure corundum include the sapphire, the oriental ruby, topaz, emerald, and amethyst. Specimens of these and other gem-stones, including the ruby, garnet, chrysolite, zircon, &c., have been found in gold and tin-bearing drifts and river gravels in numerous localities throughout the State. Cairngorm and onyx, with other varieties of agate, are found occasionally.

The topaz is obtained at Oban, in the Glen Innes district, but the price realised for the output is low.

Turquoises were discovered in the vicinity of Bodalla in 1894, and developmental work was carried on during 1895 by means of aid granted from the Prospecting Vote. In 1896, however, the mine was closed.

ALUNITE.

Alunite, or alumstone, occurs at Bullahdelah, about 35 miles from Port Stephens, in a narrow mountain range which for more than a mile of its length is composed almost entirely of alunite, of greater or less purity.

Four varieties of alunite are recognised at the mines:—

1. Light pink containing	...	...	1.7 per cent. silica.
2. Chalk-white	...	...	16.4 „
3. Purple	...	...	19.5 „
4. Granular	...	...	39.5 „

Working is confined mainly to the light-pink ore, the yield averaging about 80 per cent. of alum. The quantity and value of alunite, the produce of this State, exported to the end of 1915, is shown in the following statement:—

Period.	Quantity.	Value.	Period.	Quantity.	Value.
	tons.	£		tons.	£
1890-4	3,891	16,756	1911	1,006	3,795
1895-9	6,791	21,202	1912	3,425	13,700
1900-4	11,559	33,252	1913	2,235	8,940
1905-9	11,227	27,998	1914	3,040	12,160
1910	1,136	2,840	1915	1,420	5,680

During 1910 and 1911, prospecting by means of diamond drilling was carried on at Bullahdelah, with a view to locating further bodies of alunite of payable grade, so as to maintain the export trade; as a result there was a large increase in the quantity exported. Since the year 1890 the quantities and values of alunite, the produce of New South Wales, exported were 45,730 tons, value £146,323. Particulars are not available as to the amount of alum of local production used within the State.

ARSENIC.

In connection with the treatment of small test parcels of gold and silver ores from Moruya, by Oxy-Hydro process, some 2 tons of arsenic were obtained in 1909. In 1910, 200 tons, valued at £950, and in 1911, 300 tons of arsenic were produced in the treatment of ores from the Conrad Mine at Howell. The quantity obtained in the last three years was not recorded.

MARBLE AND BUILDING STONE.

New South Wales possesses abundant materials for building purposes, and considerable use is made of domestic supplies, but quarries generally are not subject to mining legislation. Complete records of operations are not readily available, but the annual return of quarries given on a previous page contains information as to the quantity and value of building stone raised.

MARBLE.

Beds of marble of great variety of colouring, and with highly ornamental markings, are located in many districts of New South Wales. Much of the marble is eminently suitable for decorative work, and in recent years has won the favour of builders.

Costs of quarrying and of carriage to Sydney are heavy, and handicap the local marble considerably as compared with importations, which have the advantage of cheaper sea carriage, while most of the quarries worked or proved in New South Wales, being in the western district, have to pay the heavier costs of rail carriage.

During 1915 marble valued at £3,750 was obtained from quarries at Borenore and Caleula, in the Orange division.

The total value, at the place of production, of the marble raised in the year 1915 amounted only to £4,187.

STONE.*Sandstone (Building).*

The Hawkesbury formation, which underlies the city of Sydney and outcrops all round Port Jackson, provides an inexhaustible supply of sandstone of the highest quality for building purposes. This stone, which varies in colour from white to light-brown, is admirably adapted for architectural use, being of fine grain, durable, and easily worked. Sandstone is quarried in many suburbs of Sydney.

In the north-west of New South Wales, a good building stone (desert sandstone of Upper Cretaceous age), resembling Hawkesbury sandstone, is used; and somewhat similar freestones are obtained in the Permo-Carboniferous coal measures at Morpeth and elsewhere north of Sydney.

State Sandstone Quarry.

A State freestone quarry has been established at Maroubra, near Sydney, where there is a deposit of good "yellow block" stone suitable for the construction of large public buildings.

Syenite.

Syenite, commonly called trachyte, is found at Bowral; as a building material it is equal to granite in solidity, and takes a beautiful polish. It is a fine-grained, hard, crystalline rock, though difficult to dress; in colouring it is light-grey or dark-grey. For building purposes, the short distance from the metropolis at which it is to be found enables it to be used for large structures on comparatively favourable terms.

Granite.

Granite is found at Bathurst, Moruya, Trial Bay, and on Montagu Island, and at many other places throughout the State. Most of the granite hitherto used in Sydney has been obtained from Moruya, a port 141 miles south of Sydney, where the deposits are of dark-grey granite, and are so located as to derive advantage from cheap water carriage. This applies also to the pale-pink granite of Trial Bay and the red granite of Gabo Island.

Road Metal.

Basalt, or "blue metal," suitable for road metal, for the ballasting of railway lines, and for making concrete, is obtained at Kiama, Prospect, and Pennant Hills. From the Prospect quarry the rock can be hewn in large blocks, and sawn into slabs for paving stones.

At Coolabah, Tertiary gravels provide suitable material for roads and pathways, viz., uncompacted gravel to a depth of 3 feet below the surface, and, lower still, a type of cemented gravel. Of the uncompacted superficial gravel, some 25 per cent. is of quartzose material of shape and size suitable for a resilient railway ballast.

Within the metropolitan area, prismatic sandstones occurring in different localities have been worked for road material; but the irregular manner in which the sandstones are altered into quartzites militates against safe estimates, from surface indications, of the quantities available.

State Metal Quarries.

The operations at the Kiama State Metal Quarry resulted during the year 1916 in the production of 160,000 tons of broken stone, 70 per cent. of which was despatched by steamer, and the balance by rail, to the Metropolitan and Newcastle areas. About 130 men are employed at this quarry, and two colliers of 370 and 460 tons carrying capacity are engaged, their operations employing another 57 men.

A complete modern plant has been fully installed at this quarry.

At Port Kembla, 45 miles from Sydney, a large quarry is being worked by the State partly to obtain blocks of stone from 3 tons upwards for break-water construction, and partly for crushed stone for road-making and concrete purposes. Improvements to this plant have been completed and capacity increased to 700 tons per day, the present output being 100,000 tons per annum.

At the close of the year about 70 men were employed in the stone-crushing operations at Port Kembla.

The operations of the State Metal Quarries for the year resulted in a considerable profit after allowing for depreciation and interest on capital.

Quarry Licenses and Permits.

During the year 1915-16 there were 867 quarry licenses, revenue £247 8s., and 8 permits, revenue £35, issued at the Department of Lands, the total revenue received being £282.

LIME, LIMESTONE, AND PORTLAND CEMENT.

Beds of limestone of different geological ages are distributed widely over New South Wales, the best known being in the eastern and central parts of the State. The limestones are worked for the preparation of quicklime, as flux in metallurgical processes, for building stones, and for the manufacture of cement.

Limestone flux was supplied to the Broken Hill silver mines from quarries at Torrowangee, about 30 miles distant; but with the transfer of the Broken Hill Proprietary Company's smelting operations to Port Pirie, in April, 1898, the demand for flux ceased, and the quarries closed. Since 1900 considerable activity has been displayed in the mining of limestone for the manufacture of lime and cement at Portland, in the Mudgee district, and in the Rockley division, and at Marulan, Broken Hill, Bulladelah, Taree, Barraba, Parkes, and Peak Hill, where also lime has been produced and a quantity of limestone obtained for flux.

There is a deposit of magnesium limestone (dolomite) in the locality of Mudgee, which was regarded by the Iron and Steel Commission as unique.

The following table shows the quantity of limestone raised for flux in the last ten years:—

Year.	Limestone Flux.		Year.	Limestone Flux.	
	Quantity.	Value at Smelting Works.		Quantity.	Value at Smelting Works.
	tons.	£		tons.	£
1906	12,788	7,463	1911	46,237	12,541
1907	41,667	16,162	1912	33,186	11,066
1908	53,668	14,779	1913	42,664	10,686
1909	45,078	13,851	1914	51,852	11,674
1910	56,938	16,946	1915	71,720	15,631

The total value of the limestone raised for flux to the end of 1915 was £740,805, representing 1,290,906 tons, and the production of lime was 410,042 tons, valued at £408,811.

Prepared lime for building and other purposes is manufactured at various localities, the largest quantities being supplied by the kilns in the Goulburn and Capertee Divisions; lime was also manufactured in the divisions of Taree, Molong, Braidwood, Broken Hill, Grenfell, Parkes, Blayney, Aleetown, Mudgee, Rockley, and Gundagai.

Limestone for the manufacture of cement is obtained from quarries in the Capertee division, and the principal works are at Granville and Portland, near Wallerawang. In 1915 cement to the value of £418,853 was manufactured, and the total value of the cement manufactured to the end of that year was £3,075,516. Further details regarding lime and cement works may be found in the chapter "Manufacturing Industry."

State Limeworks and Brickworks.

Information regarding the State Limeworks and Brickworks is furnished in Part "Manufacturing Industry" of this Year Book.

CLAYS, PIGMENTS, &C.

Fireclays.

Fireclays of good quality are found in the Wianamatta shales and in the Permo-Carboniferous measures; and in every part of the State excellent clays, well adapted for brick-making purposes, are worked extensively. The Lithgow Valley Colliery raised 1,500 tons of fireclay, valued at £1,800. It is estimated that from this quantity 300,000 bricks will be manufactured; 1,184 tons of pipeclay were manufactured into drain pipes and sanitary-ware valued at £3,552. During 1915, 50 tons of fireclay, valued at £80, were raised in the Bathurst division, from which 20,000 fire-bricks were manufactured.

Silica.

At Marangaroo 4,500 tons of silica were raised for silica-brick making; 1,500,000 fire-bricks were made, the estimated value being £12,750. The value of the crude silica was £1,125.

Kaolin.

Kaolin, or China clay, derived from the decomposition of the felspars in granite, is found in many granitic districts, such as Bathurst, Gulgong, Uralla, and Tichborne, near Parkes. The clay is of excellent quality.

The output of kaolin from the Molong, Gulgong, Murrumburrah, and Goulburn divisions for 1915 was 767 tons, valued at £627.

At Wallendbeen 456 tons, valued at £338, were produced and manufactured into whiting, whilst at Boxer's Creek 131 tons, valued at £79, were raised and sold to brick manufacturers. At Home Rule 160 tons, valued at £160, were obtained.

Yellow Ochre, &c.

Deposits of pigments are found near Mudgee and Dubbo, and also in the Orange district, where a fair quantity of the raw material, consisting principally of purple oxide and yellow ochre, has been produced. In the Dubbo division, 90 tons of yellow ochre, &c., valued at £105, were raised during the year 1915. In consequence of the irregular demand the deposits were only worked at intervals.

Fuller's Earth.

Fuller's Earth has been located at Boggabri, in the Narrabri division. Trial parcels of the earth, after treatment, realised from £4 to £6 10s. a ton in Sydney. From surface indications, there are some 5 acres of actual outcrop showing Fuller's Earth, but the total extent of the deposit, proved to a depth of between 20 and 30 feet, is considerable; and during 1911 mining operations were commenced, 120 tons of crude earth being raised and dried at the mine. The factory for treatment of the crude earth at Darling Harbour treated 75 tons of earth by levigation and grinding, the product, valued at £5 12s. 6d. per ton, being sold for use in the refining of paraffin wax for candle-making. During 1912, 53 tons of earth were raised in the Narrabri division, and, after treatment, realised £287. No production has since been recorded.

In the locality of the Boggabri Fuller's Earth deposits, an extensive deposit of earthy limestone, examined during 1911, proved to consist mainly of carbonate of lime (87.76 per cent.), with a little magnesium carbonate (2.15 per cent.), and some gangue sand and clay. This material is in demand for paint manufacture. A sample of "natural cement" from the same locality showed 38.78 per cent. silica; alumina, 8.18 per cent.; lime, 18 per cent.; and carbon-dioxide, 14.7 per cent.

Steatite.

A deposit of steatite was opened up at Wallendbeen during 1910, and 98 tons were sold; in 1911, 83 tons of powdered material were obtained; and 1 ton of steatite was raised in the Mudgee district. In 1912, 168 tons were quarried at Wallendbeen—57 tons were powdered, and the remainder sold as rough lumps; some parcels of the crude material were shipped to Europe. The Wallendbeen mine yielded 54 tons, valued at £45, in 1913, 80 tons, valued at £80, in 1914, and 60 tons, valued at £60, in 1915. Works for the treatment of the crude ore in a new manner have been erected in Sydney.

Barytes.

The quantity of barytes raised in the State during the year 1915 was 78 tons, of the value of £136, all of which came from the Mudgee division.

A sample of barytes from the vicinity of Gundagai, in 1912, yielded, on analysis, 98 per cent. of barium sulphate; samples from Candelo and Cooma each showed 97 per cent. and from Holbrook and Macksville 95 per cent.

Fluorspar.

Late in the year 1915, at the Woolgarlo Silver-lead Mine, in the Yass division, mining operations were commenced, and 417 tons, valued at £990, were recovered.

Magnesite.

Magnesite has been found at Fifield, and a large quantity is easily procurable. During 1911, 5,700 tons of stone, estimated to contain 1,950 tons of magnesite, and during 1913 material weighing 7,000 tons were raised, but owing to absence of demand the ore was not treated. In 1914, 2,000 tons, and in 1915, 830 tons, valued at £1,660, were raised.

Graphite.

Graphite, or plumbago, occurs in the Walcha division, and at Undercliffe, in the Wilson's Downfall division, where there are several lodes, one of which is 6 feet wide. During 1915, 70 tons of ore were raised, valued at £30.

Slates.

Slates occur at Gundagai, Bathurst, and Moruya. At Chatsbury, in the Goulburn district, slates valued at £187 were disposed of during the year. Delay at the quarry was caused by repeated landslips and flood water. A greater output of slates is expected during 1916, as a larger number of persons will be employed.

Asbestos.

Asbestos has been found in veins in serpentine in the Gundagai, Rockley, and Barrier Range districts. During the year 1915 about half a ton of asbestos, valued at £5, was raised.

Mica.

Mica is known to exist in many parts of New South Wales, but has not yet been worked, although there is a considerable demand for the article, especially if in blocks of fairly large size that could be split easily into thin plates. It is to be obtained in the numerous granitic areas which occur in various parts of the State, especially in the coarsely-crystalline granitic formations in the Silverton district, and elsewhere in the Barrier Ranges.

ABRASIVES.

Grindstones.

The output of grindstones for 1915 was valued at £20, making a total output value to date of £3,180, and representing practically the value of the export trade.

Diatomaceous Earth.

Diatomaceous earth occurs in extensive deposits at Barraba, Cooma, Wyrallah, on the Richmond River, and at several localities in the Warrumbungle Mountains. Very little work has been done on these deposits owing to the diminished demand for this material. During 1915, 126 tons, valued

at £220, were raised at Bunyan, in the Cooma division; and from another mine in this division 39 tons were raised, 20 being marketed, the value of which was £80. To encourage this industry witnesses before the Interstate Commission have asked for an import duty, also for higher duty on boiler covering composition.

Emery.

A sample of emery from the locality of Quirindi was analysed in 1911, the result being—alumina, 54·54 per cent.; iron oxide, 31·61 per cent.; titanium dioxide, 4·60 per cent.; phosphoric anhydride, 1·10 per cent.

ROCK PHOSPHATE.

Under the Commonwealth Wood Pulp and Rock Phosphate Bounties Act, 1912, a reward of £1,000 may be granted under certain conditions to the discoverer of any deposit or vein of rock phosphate suitable for making phosphatic manure, provided the deposit or vein be worked, and 10,000 tons of rock phosphate be produced and used in the manufacture of marketable phosphatic manure.

During 1914, 700 tons of phosphate rock, to the value of £1,055, were obtained. Portion of this was used as a flux for the Lithgow ironworks and portion for phosphatic manures, while some was sent to Japan for experimental purposes as a fertiliser. In 1915 1,100 tons of phosphate rock were raised, about 700 tons was finely ground, and it is estimated to yield £2,500. The value of the whole output is estimated at £3,000.

MINING ACCIDENTS.

The number of fatalities during the last five years in the more important branches of mining, and the rates per 1,000 employees are shown below:—

Year.	Metalliferous Mines.						Coal and Shale Mines.	Total.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Other.	Total Metalliferous		

Number of Fatalities.

1911	1	23	10	...	1	35	15	50
1912	8	17	5	1	...	31	30	61
1913	6	30	7	1	1	45	18	63
1914	6	16	3	1	...	26	17	43
1915	...	9	3	2	...	14	23	37

Per 1,000 Employees.

1911	·22	2·71	4·65	...	·54	1·81	·85	1·35
1912	2·05	1·88	2·10	·38	...	1·66	1·66	1·61
1913	1·68	3·21	2·66	·42	·50	2·26	·95	1·62
1914	1·74	1·94	2·21	·46	...	1·49	·85	1·18
1915	...	1·62	3·28	1·21	...	1·06	1·26	1·18

During the year 1912 the number of fatalities in connection with gold-mining was much higher than usual, in consequence of an accident at Wyalong, where six miners were asphyxiated by inhalation of carbon dioxide. During 1915 there were 23 fatalities in coal and shale mines. In proportion to the number of persons employed the rates were highest in copper and silver-lead mines.

The number of persons seriously injured in mining operations during the last five years, and the ratio per 1,000 persons employed, are shown in the following statement:—

Year.	Metalliferous Mines.						Coal and Shale Mines.	Total.	Ratio per 1,000 persons employed.
	Gold.	Silver, Lead and Zinc.	Copper.	Tin.	Other.	Total Metalliferous			
<i>Number of Persons Seriously Injured.</i>									
1911	6	20	5	1	...	32	92	124	3.35
1912	3	22	6	1	...	32	81	113	2.98
1913	1	29	5	1	1	37	74	111	2.86
1914	3	34	1	...	1	39	73	112	3.07
1915	1	29	...	3	2	35	49	84	2.67

Many of these accidents and fatalities occurring on the surface can scarcely be regarded as true mining accidents. The following table shows the number of surface and under-surface accidents in connection with metalliferous mining. As might be expected, the greater number of accidents occur under surface:—

Metalliferous Mines.				Under-surface Accidents.		Surface Accidents.	
				Fatal.	Serious.	Fatal.	Serious.
Gold (quartz)	...	...	...	...	1	...	...
Silver and Lead	...	...	...	7	21	2	8
Copper	...	...	...	2	...	1	...
Tin	...	...	...	1	2	1	1
Other	...	...	...	...	2	...	...
Total	...	...	...	10	26	4	9

During 1915 no accidents resulted from explosion of fire-damp or coal dust.

The number of persons killed and seriously injured in the coal and shale mines of New South Wales during the last ten years with the proportion of miners and the quantity of mineral raised, is given below:—

Year.	Coal and Shale Mines.					
	Number of persons.		Number of employees per person—		Quantity of Mineral raised to each person—	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
					tons.	tons.
1906	21	72	723	211	364,705	105,922
1907	17	99	1,021	175	512,074	87,932
1908	21	111	861	163	435,573	82,823
1909	14	59	1,326	314	504,900	119,807
1910	21	109	859	166	392,467	75,613
1911	15	92	1,177	192	584,447	95,290
1912	30	81	602	223	332,394	123,109
1913	18	74	1,053	256	579,508	140,961
1914	17	73	1,116	280	614,157	143,023
1915	23	49	792	372	411,530	193,167

The experience of coal-mining in this State with respect to accidents bears very favourable comparison with that of other countries.

A recent estimate shows that 48·5 per cent. of the total output of coal in New South Wales is obtained from collieries where miners use safety-lamps; and as the workings get deeper this proportion is likely to increase, since with greater depth there is more likelihood of fire-damp.

Considerable improvements have been made in portable electric safety-lamps during late years, and several having passed the necessary tests in Great Britain, their use for underground purposes has been much increased.

Ambulance classes are trained and corps exist in New South Wales for the purpose of promoting among miners a knowledge of first-aid principles. From 1897-1915, 129 classes were enrolled, the minimum membership being 10. The classes formed during 1915 numbered 6.

Interesting information regarding the sickness experience of Friendly Societies in mining districts is given in a later chapter of this Year Book.

LEAD POISONING.

The last recorded case of lead poisoning under the Mines Inspection Act was in the year 1913, when 1 case was reported at Broken Hill.

MINERS' ACCIDENT RELIEF FUND.

The New South Wales Miners' Accident Relief Act, 1900, operative since 1st January, 1901, applied originally to all mines in or about which fifteen or more persons were employed; but under an amending Act passed in 1910, it was applied also to mines employing less than fifteen but more than five persons.

The Miners' Accident Relief Fund is administered by a board of six members, viz., a chairman and a representative each of (1) owners of coal and shale mines, (2) owners of other mines, (3) persons employed in or about coal and shale mines, (4) persons employed in or about other mines, and (5) the Department of Mines.

The fund is maintained by contributions (1) from each employee, amounting to 4½d. per week, (2) from mine-owners equal to 50 per cent. of the aggregate amount contributed by employees, and (3) a subsidy from the Consolidated Revenue Fund equal to the amount contributed by the owners.

The benefits payable are as follows:—

(a) In cases of fatal accident—(1) Funeral allowance, £12; (2) a weekly allowance of 10s. to the widow or other adult dependent upon the deceased for support; and (3) a weekly allowance of 5s. in respect of each child of the deceased or of each child of an adult dependent, payable until such child attains the age of 14 years.

(b) In cases of disablement—(1) A weekly allowance of 15s. until able to resume work, and, where disablement is adjudged permanent; (2) a weekly allowance of 5s. in respect of each child under the age of 14 years.

The Miners' Accident Relief (Repeal) Act of 1916 makes provision for the repeal of the Miners' Accident Relief Acts, for the closing of the fund, and the dissolution of the Board. The Act will come into operation on 1st July, 1917, and from that date accident relief for miners will be provided under the Workmen's Compensation Act, 1916, and allowances under the repealed Acts will become a charge upon the Consolidated Revenue Fund.

The number of distinct mines subject to the Act during 1915 was 185, and at the end of the year there were 174 mines. The deaths reported as the result of accidents numbered 41, and the disablements 4,511. The allowances to beneficiaries during 1915 were:—Funeral allowances, £477; relief to relatives of deceased persons, £18,133; and to persons disabled, £32,719, the total amount being £51,330.

The beneficiaries on the fund at 31st December, 1915, in respect of fatal accidents were 434 adults and 534 children, and in respect of non-fatal accidents, 312 persons permanently disabled, and 304 children.

The permanent charge upon the fund at 31st December, 1915, represented an annual expenditure of £34,346.

POSTS AND TELEGRAPHS.

TAKING into consideration its large area, New South Wales possesses an excellent system of postal and telegraphic communication. The interstate system is good, and New South Wales is in direct communication with Europe and the rest of the world by means of the cables connecting with the various European, Asiatic, and the Canadian and South African telegraph lines, and the State is connected also with New Zealand. Wireless telegraphy is available for the transmission of messages to and from vessels at sea, and for the interchange of telegrams with Papua, New Zealand, Fiji, and other islands of the Pacific.

The postal, telegraphic, and telephonic services of New South Wales became vested in the Commonwealth, under the provisions of the Commonwealth of Australia Constitution Act, and these services were taken over on 1st March, 1901, and the Commonwealth Post and Telegraph Act became law the same year.

On 1st November, 1902, the Commonwealth Post and Telegraph Rates Act secured for all the States uniformity of the rates charged for the conveyance of newspapers and transmission of telegrams.

The postage rates on letters, letter-cards, printed papers, books, and magazines within each State were still continued until 1st May, 1911, when, by the Postal Rates Act, 1910, complete uniformity of postage rates was established, and the postage for letters within the Commonwealth or to any part of the British Empire was reduced to 1d. per $\frac{1}{2}$ oz.

NUMBER OF POST OFFICES, &c.

The following table shows for New South Wales the number of post offices, and the postal matter carried in five-year periods from 1855.

Year.	Post Offices in New South Wales.	Receiving Offices.	Letters, Post-cards and Registered Articles.	Newspapers.	Packets.	Parcels.
1855	155	8	2,114,179	2,100,989	†...	...
1860	289	*	4,230,761	3,668,783	83,736	...
1865	435	*	6,328,353	4,689,858	249,904	...
1870	562	*	7,083,500	3,814,700	157,700	...
1875	752	7	13,846,686	6,262,600	357,000	...
1880	927	119	21,885,860	13,791,000	711,600	...
1885	1,115	202	39,692,200	25,567,400	3,446,800	...
1890	1,338	325	63,695,100	40,597,200	8,939,600	21,300
1895	1,470	502	69,373,708	44,902,900	11,259,200	422,800
1900	1,668	521	79,602,694	51,500,920	13,846,700	711,700
1905	1,744	522	111,958,588	44,599,104	22,083,000	994,100
1910	1,911	526	163,754,056	66,963,559	39,008,610	1,600,426
1911	1,948	542	189,656,401	71,619,194	36,283,500	1,748,822
1912	2,000	559	192,996,376	68,696,648	32,687,904	2,067,652
1913	2,025	571	212,639,659	64,874,811	38,583,889	2,318,453
1914	2,049	574	217,907,644	66,216,699	34,203,574	2,372,964
1915-16	2,074	566	219,525,661	72,067,335	33,343,149	2,537,970

* Not recorded.

† Included with letters.

In 1855 the number of letters and newspapers, inland and foreign, was slightly over 2 millions each, whereas in the year ended 30th June, 1916, the number of letters and post-cards had grown to 219½ millions, and newspapers to 72 millions, without reckoning nearly 36 millions of packets and parcels.

A large percentage of circulars classified previously as packets have been sent as letters since the reduction of letter rates.

Further particulars of the postal matter carried during the year ended 30th June, 1916, are shown below :—

Postal Matter.	Inland (Counted Once).	To and from other Australian States.	To and from Countries outside Australia.	Total.	Per Head of Population.
Letters and post-cards	155,935,713	37,367,438	24,026,829	217,329,980	116·3
Registered articles ...	1,364,546	414,899	416,236	2,195,681	1·2
Newspapers ...	47,106,892	18,694,710	6,265,733	72,067,335	38·6
Packets ...	24,852,423	6,304,525	2,186,201	33,343,149	17·8
Parcels ...	1,887,833	419,562	230,575	2,537,970	1·4

During 1915-16 the postal matter posted and received per head of population was—Letters, post-cards, and registered articles, 118 ; newspapers, 39 ; and packets and parcels, 19.

Value-payable Parcel Post.

Under a system of value-payable parcel post, the Department accepts for transmission within the Commonwealth parcels or letters sent in execution of orders, and collects from the addressees on behalf of the senders the charges due thereon. During the year ended 30th June, 1916, the number of parcels posted in New South Wales was 13,579 and the value collected was £20,214, the revenue, including postage, commission on value, registration, and money-order commission being £1,850.

Customs Duty Parcels.

The number of parcels on which Customs duty was charged in New South Wales during the year ended 30th June, 1916, was 45,915, the amount collected being £105,634.

Registration of Postal Articles.

In order to ensure safe delivery, any letter, package, or newspaper may be registered on the payment of an additional fee of 3d., and registration is required of all articles of value. The number of registered articles posted and received in New South Wales during the year ended 30th June, 1916, was 2,195,681.

DEAD LETTERS, &c.

The number of letters and other postal articles dealt with by the Dead Letter Office in New South Wales during the year ended 30th June, 1916, was as follows :—

How dealt with.	Letters.	Post-cards.	Packets.
Returned direct to senders, or delivered ...	501,738	5,599	470,822
Destroyed in accordance with Act ...	166,447	3,805	117,920
Returned as unclaimed to other States or Countries ...	123,602	4,339	1,702
Total... ..	791,787	13,743	590,444

RATES OF POSTAGE.

The charge on letters between New South Wales and the United Kingdom, which had been at the rate of 6d. per $\frac{1}{2}$ oz. *via* Italy, and 4d. by the long sea route, was reduced in 1891 to 2½d., the reduced rates being extended, when New South Wales entered the Postal Union, to all foreign countries embraced in the Union. A further reduction, made in 1905, to 2d. for a letter sent to the United Kingdom, was afterwards extended to all other parts of the British Empire.

Although the Commonwealth did not participate in the Imperial Penny Postage scheme at its inception, it was decided in 1902 to accept in Australia, with the concurrence of the despatching countries, letters from other parts of the Empire bearing postage at the rate of 1d. per $\frac{1}{2}$ oz., and arrangements were concluded with New Zealand, Canada, and the United Kingdom. The United Kingdom adopted 1 oz. as the initial weight, and approval was given in 1907 for the acceptance in Australia of letters from any other part of the Empire bearing postage at the rate of 1d. per oz.

On 1st May, 1911, the penny postage rates were introduced; the rate for letters throughout the Commonwealth and to any part of the British Empire, New Hebrides, Banks and Torres Islands, is 1d. per $\frac{1}{2}$ oz., and to all other places 2½d. per $\frac{1}{2}$ oz.

The principal postal charges in force within the Commonwealth and Papua are at the following rates:—

Letters	1d. per $\frac{1}{2}$ oz.
Post cards—Single	1d. each
Newspapers—Printed and published in Australia	$\frac{1}{2}$ d. per 10 oz.
Printed and published outside Australia	$\frac{1}{2}$ d. per 4 oz.
Magazines—Printed and published in Australia	$\frac{1}{2}$ d. per 8 oz.
Printed and published outside Australia	$\frac{1}{2}$ d. per 4 oz.
Books—Printed in Australia	$\frac{1}{2}$ d. per 8 oz.
Printed outside Australia	$\frac{1}{2}$ d. per 4 oz.
Printed papers	$\frac{1}{2}$ d. per 2 oz.
Commercial papers, patterns, samples and merchandise	1d. per 2 oz.
Parcels	6d. for 1 lb., and 3d. per lb. additional.

Stamped letter-cards may be purchased at the rate of five for 5½d.

Licensed vendors of postage stamps may be allowed 2½ per cent. commission, up to a maximum of 30s. per week. During the year ended 30th June, 1916, an amount of £5,457 was paid as commission to licensed vendors in New South Wales, the total so paid for all States of the Commonwealth being £18,858.

MAIL SERVICES.

The number of inland mail services in 1915–16 was 2,140; the cost of road services amounted to £231,250, and of railway services to £128,892.

The Postmaster-General establishes new mail services in the country districts of the State when the persons interested provide half the difference between cost and revenue.

OCEAN MAIL SERVICES.

Regular steam communication with England was established in 1852, but the service was suspended two years later on the outbreak of the Crimean war, and was not resumed until 1856. As this service proved unsatisfactory, a line was started in 1866 to carry mails from Sydney, *via* Panama, but it was terminated two years later.

San Francisco Route.

On the completion of the railway across America in 1869, a monthly service, *viâ* San Francisco, was inaugurated, under contract with the New Zealand Government, in which New South Wales participated under certain conditions until the expiration of the contract in 1871. The route was re-established in 1873 by the Governments of New South Wales and New Zealand, in consequence of an alteration in the arrangements regarding the Suez service as shown below. Although the San Francisco route declined in importance as regards this State, by reason of the subsequent development of the weekly service *viâ* Suez, New South Wales contributed towards the maintenance of the service under various conditions, until the expiration of a contract between New Zealand and the Union Steamship Company in 1900. After that date Australian mails were despatched every three weeks at Postal Union rates, *viâ* San Francisco, by the American vessels of the Oceanic Steamship Company, which had a contract with the United States Government, but this service was suspended in April, 1907. After an interval of some months another service was for a short time carried on by a British firm. The Oceanic Company resumed the San Francisco to Sydney service in 1912, making monthly trips.

In January, 1909, New Zealand entered into a contract for a mail service between New Zealand and Papeete, connecting with the United States service between Papeete and San Francisco. This contract was determined in October, 1910, and a new service from New Zealand, *viâ* Raratonga and Papeete to San Francisco, was in 1911 extended to Sydney; by alternation with the Vancouver line fortnightly communication with America is provided, the mails from Australia being carried at poundage rates.

Vancouver Service.

In 1893, direct communication with Canada was established by the inauguration of a regular monthly service between Sydney and Vancouver, *viâ* Wellington, subsidised by New South Wales and New Zealand. In 1899, the route was altered and Brisbane was substituted as a port of call instead of Wellington. Since the expiration of a contract in July, 1911, the call at Brisbane has been discontinued, and the Commonwealth has ceased to be a party to the contract for this service, though mails are despatched at Postal Union rates by the vessels sailing under a new contract, subsidised by Canada and New Zealand, and calling at Auckland, Suva, and Honolulu.

Suez Route.

After the establishment of a mail route across America, there was a considerable improvement in the service *viâ* Suez. The Peninsular and Oriental Company continued to carry mails under contracts negotiated by the Imperial Government—the Australian Governments contributing a share of the cost, in accordance with the weight of postal matter transmitted. For some years prior to 1874, the mails between England and Australia were conveyed under two contracts—one between England and Point de Galle, Ceylon, and one between Point de Galle and Sydney. In 1873, the Imperial Government decided to discontinue the latter contract, but offered to convey Australian mails between England and Galle, or Singapore, or San Francisco. Subsequently Victoria entered into a contract with the Peninsular and Oriental Company for a service between Galle and Melbourne, the Queensland Government conveyed mails to Singapore, *viâ* Torres Straits—a service which was established in 1864—and the Governments of New South Wales and New Zealand completed arrangements for a subsidised service to San Francisco. By mutual agreement, the contracting States for each mail service arranged to carry mails for the other States at poundage rates.

In 1878, the Orient Company commenced to carry mails *via* Suez, at non-contract rates until 1883, when the first contract was made with New South Wales, payment being based on the weight of letters carried.

Facilities for the transmission of mails to Europe were afforded also by the inauguration of the Messageries Maritimes line in 1882, and of the Nord deutscher Lloyd in 1886.

Until 1888, however, mail communication between Australia and the United Kingdom, *via* Sydney, was dependent mainly upon the two contract services, viz., the Orient Company, fortnightly between Sydney and Suez, by arrangement with the New South Wales Government, and the Victorian contract with the Peninsular and Oriental Company, fortnightly between Melbourne and Colombo. These services provided weekly connection with the mail lines from England to China and India, maintained by the Imperial Government.

In 1887 arrangements were made by which all the States of Australia agreed to take joint action with regard to subsidising the services *via* Suez, and at the expiration of contracts in 1888 the Imperial Government negotiated with the Peninsular and Oriental and the Orient Companies for two fortnightly services, alternating to secure weekly communication. Each company was subsidised at the rate of £85,000 per annum—£95,000 being paid by the Imperial authorities and £75,000 contributed by the Australian Governments, apportioned amongst the States on a population basis.

After being renewed for various periods on somewhat similar conditions, these contracts terminated on 31st January, 1905.

In consequence of the determination of the Federal Parliament, as expressed in the Post and Telegraph Act of 1901, to provide for the exclusive employment of white labour on contract mail steamers, the Imperial authorities arranged to take separate action to secure a fortnightly service to Australia, and entered into a contract with the Peninsular and Oriental Company, paying one subsidy for the conveyance of mails to Australia, East India and China. On the expiration of this contract on 31st January, 1908, it was renewed for a further period of seven years. Mails from Australia are still carried by the P. and O. Company, with payment at postal union rates.

The Commonwealth decided to provide another fortnightly service to alternate with the Imperial contract, and in April, 1905, completed an agreement with the Orient Company for the carriage of mails fortnightly between Naples and Adelaide, *via* Suez, at an annual subsidy of £120,000, the period of transit being fixed at 696 hours. It was subsequently arranged that the steamers of this line should continue the voyage from Sydney to Brisbane upon the payment of an additional subsidy. The agreement lasted until 31st January, 1910, when a tender submitted by the Orient Company for a ten years' service, dating from 1st February, 1910, was accepted.

The contract provides that upon each mail ship a certain amount of insulated space for the carriage of perishable produce shall be provided, that white labour only shall be employed, that the vessels must call at Brisbane each trip, and that the periods of transit must be the same as are provided in the Imperial contract with the Peninsular and Oriental Company, viz., Taranto to Adelaide 638 hours, and Adelaide to Taranto 650 hours, the amount of subsidy being £170,000 per annum.

In addition to the service provided by the British lines, the Messageries Maritimes and the Norddeutscher Lloyd steamships carried mails for the Commonwealth at poundage rates.

Since the outbreak of war the number of trips run by the Orient steamers has been reduced, as some of the ships have been requisitioned for war purposes and the route has been altered; the sailings of the French steamers have been intermittent; the German service has ceased.

The normal period of transit of mails between Sydney and London was exceeded during the year ended 30th June, 1916, owing to delays and alterations in routes on account of war conditions. The average time occupied in the transmission of mails by the Orient Line from Adelaide to London was 39 days 20 $\frac{3}{4}$ hours, and in the opposite direction 33 days 22 $\frac{3}{4}$ hours. Some of the voyages were *via* South Africa. The mails conveyed by the Peninsular and Oriental Company from Adelaide were delivered in an average time of 36 days 2 $\frac{3}{4}$ hours, and from London in 34 days 11 $\frac{1}{2}$ hours.

The European mails, *via* Suez and South Africa, are landed at Adelaide, from which city the journey by train to Sydney occupies forty-two hours, including a stay of seven hours at Melbourne.

Pacific Islands Mail Service.

Between the years 1888 and 1891 the Government of New South Wales contributed towards the cost of steam communication between Sydney, New Caledonia, New Hebrides, and other islands of the Pacific. The system was revived after a lapse of several years, and in 1900 a contract for a period of ten years was made for a monthly steam service, including conveyance of mails, between Sydney, New Hebrides, Santa Cruz, and Solomon Islands, for an annual subsidy of £3,600, which was increased to £4,000 on the condition of employing white labour only when the Commonwealth Government took over the contract in 1901. The subsidy was increased at various dates to provide extensions to Gilbert and Ellice Islands and to British New Guinea. Under an agreement which commenced in September, 1910, a mail service to Lord Howe and Norfolk Islands, Papua, Solomon Islands, New Hebrides, and the Marshall and Gilbert Islands was provided at an annual subsidy of £19,850.

TELEGRAPHS.

The electric telegraph was first used by the public of New South Wales on 26th January, 1858, when the line from Sydney to Liverpool, 22 miles in length, was brought into operation. At 30th June, 1916, there were 2,107 telegraph stations. The following table gives a view of the telegraph business transacted in New South Wales at intervals since 1900:—

Year.	Telegraph Stations.	Telegrams.			Revenue received.
		Transmitted, and delivered (Inland counted once).	In Transit.	Total.	
1900	961	3,058,720	161,187	3,219,907	£ 174,895
1905	1,069	3,576,045	261,917	3,837,962	156,956
1910	1,399	5,220,962	386,216	5,607,178	245,245
1911	1,406	5,505,935	357,625	5,863,560	253,398
1912	1,384	5,917,219	447,771	6,364,990	278,665
1913	1,602	6,116,945	456,722	6,573,667	297,965
1914	1,937	6,178,926	524,093	6,703,019	289,347
1915-16	2,107	6,402,092	624,992	7,027,084	331,924

Although the telephone system has been developed extensively during recent years, there has been no decline in the number of telegraph messages.

The telegrams received and despatched during the year ended 30th June, 1916, were classified as follows:—

Inland (counted once)	3,852,195
Interstate	2,151,920
To and from other countries (cablegrams)	397,977
In transit	624,992
Total	7,027,084

Excluding the telegrams in transit, the messages represented 3·8 per head of population.

CABLE SERVICES.

Eastern Extension Cables.

Cable communication between Australia and Europe was opened in 1871 by means of a submarine cable from Java to Port Darwin, and in 1872 messages were transmitted by the overland telegraph line from Darwin to Adelaide, distance 1,971 miles. Under an agreement made with New South Wales and Victoria, the Cable Company undertook to duplicate the line, the second cable being brought into use in November, 1879, and up to October, 1899, the company received from the Australian States (excepting Queensland) a subsidy of £32,400 per annum. These lines are controlled by the Eastern Extension Company. This company, under agreement with South Australia, Western Australia, and Tasmania, which New South Wales subsequently joined, provided for a reduction in the charges for cablegrams, and for the construction of a cable between Durban and Australia *via* Cocos. The line was opened for business in 1901, the Australian landing station being at Perth. By agreement with the Western Australian Government, dated January, 1899, the Eastern Extension Company was empowered also to lay a cable from Java to Roebuck Bay in Western Australia.

A cable, also constructed by the Eastern Extension Company, connecting New Zealand with New South Wales, was opened for communication on 20th February, 1876, and was subsidised for ten years. The landing places of this cable are at La Perouse, near Sydney, and at Nelson, New Zealand. In 1890 the Company laid a second cable to New Zealand without guarantee.

New Caledonia Cable.

In 1893 a cable from Gomen, New Caledonia to Bundaberg, Queensland, was opened by a French company, to which New South Wales and Queensland each agreed to pay an annual subsidy of £2,000 for thirty years. The total amount, £4,000 per annum, is now paid by the Commonwealth.

Pacific Cable.

In 1899 it was decided by the Governments of the United Kingdom, Canada, Australia, and New Zealand to construct a cable across the Pacific Ocean, touching only British territory on its way from Australia to Canada.

The capital and any deficit on working was guaranteed on the following basis:—Imperial Government, five-eighteenthths; Canada, five-eighteenthths; Australia, six-eighteenthths, and New Zealand, two-eighteenthths.

The line, which was completed on 31st October, 1902, connects Southport, in Queensland, with Vancouver *via* Norfolk Island, Fiji, and Fanning Island. There is also a branch from Norfolk Island to Doubtless Bay, New Zealand. The cable cost about £2,000,000, and its total length is 7,838 nautical miles. It is managed by the Pacific Cable Board, consisting of representatives from the various Governments. In 1910 the Pacific Cable Board leased a telegraph line between Bamfield, British Columbia, and Montreal, which is worked by their staff, and thus extended the Pacific

cable system from Australia across Canada to Montreal. Traffic is carried across the Atlantic by the cables of the Anglo-American Company and the Commercial Cable Company.

With a view to reducing the cable charges between Australia and the United Kingdom, a proposal to nationalise the Atlantic Cable, was made at the Imperial Conference in London in 1911. This proposal failed to receive approval, but arrangements have been made for the transmission of deferred telegrams at half rates and for week-end cable letters, as described below.

In 1911, authority was given to the Pacific Cable Board to lay a second direct cable between Australia and New Zealand. The landing places adopted for this line are Bondi Bay, near Sydney, and Muriwai Creek, on the West Coast of the North Island, New Zealand, the distance being about 1,200 miles. From the landing points connections were made with Sydney and Auckland respectively, and a new length of submarine line was laid to provide direct communication between Auckland and Doubtless Bay. This cable which was brought into operation in November, 1912, duplicates the two southern sections of the Pacific Cable, and provides accelerated service between Australia and New Zealand by avoiding the land line between Southport and Sydney.

In 1915, the Commonwealth Government reserved for the exclusive use of Pacific cable traffic a wire between the Board's office in Sydney and the General Post Office in Melbourne.

During the year ended 31st March, 1915, the cable earned a profit on working, but not sufficient to provide the annual sinking fund instalment of £30,000, and the amount contributed by the Commonwealth for that purpose was £2,638.

The receipts in the following year exceeded the working expenses, interest, and sinking fund instalment by £17,925, of which the Commonwealth proportion is £5,975. In the terms of the Pacific Cable Act, 1901, this surplus must be applied in reduction of the outstanding balance of the original loan of £2,000,000.

Tasmanian Cable.

The cable of 170 miles, connecting Tasmania with the mainland of Australia was opened for traffic in 1869, under an agreement which gave the constructing company the exclusive right of submarine telegraphic communication between Victoria and Tasmania for twenty years. The cable was subsequently acquired by the Eastern Extension Company, and the period extended for another twenty years. At the expiration of this agreement in April, 1909, two new cables laid by the Commonwealth Government between Flinders, Victoria, and Low Head, Tasmania, were opened for traffic.

Cable Lines.

The following statement shows the particulars of the cable lines giving communication from Sydney :—

To Europe—

- via Darwin and Banjoewangie, Java (duplicate).
- via Perth, Cocos, and Durban.
- via Roebuck Bay and Banjoewangie.
- via Southport, Norfolk Island, Fiji, Fanning Island, and Canada.

To New Zealand—

- via La Perouse and Nelson (duplicate).
- via Southport, Norfolk Island, and Auckland.
- via Bondi and Muriwai Creek.

To New Caledonia—

- via Bundaberg and Gomen.

To Tasmania—

- via Flinders and Low Head (duplicate).

Cable Messages.

The following table gives a comparison of the cable business transacted in New South Wales during the last ten years, excluding messages to and from Tasmania. Messages in transit are excluded also, but the receipts from such business are included in the amount of revenue shown. It will be seen that the cable messages have increased steadily during the period :—

Year.	Cable Messages.		Amount Collected.	
	Sent from New South Wales.	Received in New South Wales.	Total.	Portion due to Commonwealth Government.
			£	£
1906	96,478	93,256	181,587	9,097
1907	106,830	103,647	192,625	9,681
1908	108,634	103,870	190,266	9,748
1909	108,031	102,785	187,606	9,484
1910	119,657	115,619	219,492	11,515
1911	129,809	123,910	239,655	12,895
1912	146,049	146,586	271,037	15,259
1913	149,318	154,004	293,769	16,435
1914	162,114	153,395	366,086	29,833
1915-16	186,487	211,490	450,374	42,708

TELEGRAPH AND CABLE RATES.

The rates for the transmission of telegrams within New South Wales and to the other States of the Commonwealth came into force on 1st November, 1902. For ordinary telegrams not exceeding sixteen words, including the address and signature, the charges are 6d. in town and suburban districts within prescribed limits, or within 15 miles of the sending station; 9d. to other places within the State; and 1s. for messages sent to any other State of the Commonwealth; in each case an extra charge of 1d. is made for each additional word. Double rates are imposed for the transmission of telegrams on Sunday, Christmas Day, and Good Friday, and between the hours of 8 p.m. and 9 a.m., and for urgent telegrams.

Telegrams may be sent to any telegraph office in the Commonwealth, to be forwarded thence by post to any foreign destination, on payment of postage in addition to the charge for the telegraph transmission.

The rates per word for cables sent from New South Wales are :—To Norfolk Island, 3d.; New Zealand, 4½d.; New Caledonia, 9d.; Suva, Fiji, 8d.; Fanning Island, 2s.; United Kingdom, 3s.; Cape Colony, Orange River Colony, and Transvaal, 2s. 3d.; Durban, Natal, 2s. 2d.; Alexandria, Cairo and Suez (Egypt), 3s. 5d.; Vancouver, *via* Pacific, 2s. 4d. The rate per word for press telegrams to the United Kingdom is 7½d., and to Vancouver 3½d. per word.

Special rates are allowed for cable messages concerning members of the military and naval forces on active service abroad.

LETTER TELEGRAMS.

Letter telegrams were introduced in February, 1914; messages may be telegraphed during the night to certain offices and thence forwarded as ordinary letters—that is, delivered by first letter delivery, or despatched to address by mail. The messages must be written in plain language. The charges throughout the Commonwealth are—up to 40 words including address and signature, 1s., each additional word $\frac{1}{2}$ d.; double rates are charged on Sundays. Letter telegrams may be exchanged between any offices which are open for the receipt of ordinary business between 7 p.m. and midnight, or for ordinary or press business after 7 p.m.

DEFERRED TELEGRAMS.

A system of deferred telegrams came into operation on 1st January, 1912, by which telegrams, written in plain language, and subject to a delay not exceeding twenty-four hours, may be sent at half ordinary rates to those countries which have adopted the service, including the United Kingdom and all British Possessions to which the rate per word is not less than 10d., also to the Commonwealth wireless stations in the Pacific, and to Port Moresby and Flinders Island. Besides British territories the Commonwealth exchanges deferred telegrams with a number of foreign countries.

Deferred press telegrams, via Pacific, subject to a delay of eighteen hours, may be exchanged between Australia and the United Kingdom at the rate of $4\frac{1}{2}$ d. per word; and between Australia and Vancouver, $1\frac{3}{4}$ d. per word.

WEEK-END CABLE LETTERS.

An important system came into operation on 4th January, 1913, by which week-end cable letters may be exchanged between the Commonwealth and the countries indicated in the following statement. The cable letters reaching a cable station before midnight on Saturday are forwarded for delivery on the following Tuesday morning, or if practicable, on Monday; the messages must be written in plain language. Cable letters may be transmitted also to Great Britain or Canada for onward transmission by registered post from the telegraph office of destination to other countries; for this service a fee of 5d. is charged in addition to the rates shown below:—

Country.	Rate per Word.	Minimum Charge per Telegram.
	d.	s. d.
United Kingdom	9	15 0
Union of South Africa	7	11 8
India, Ceylon and Burma	$7\frac{1}{2}$	12 6
Canada	7	11 8
Newfoundland	$8\frac{1}{2}$	13 9
Portugal	9	15 0
British North America	8d. to 9½d.	12s. 11d. to 15s. 8d.
Yukon	9½d. to 10d.	15s. 8d. to 16s. 8d.

SUBSIDISED PRESS CABLE SERVICE.

As a result of an inquiry in 1909 into the press cable service, the Federal Government arranged to pay a subsidy of £6,000, extending over a period of three years, for the transmission of press cables by the Independent Press Cable Association of Australasia, to which any newspaper in the Commonwealth may subscribe at approved rates.

On the termination of this arrangement, in July, 1912, a new agreement was made, by which the Commonwealth Government granted a subsidy of £2,000 per annum on the condition that at least 26,000 words were supplied in each month.

WIRELESS TELEGRAPHY.

Wireless telegraphy in Australia was placed under the control of the Department of the Navy as from 1st July, 1915; previously the Postmaster-General held the exclusive right to establish wireless stations in Australia, and to transmit messages, but issued licenses to ship and private stations under prescribed conditions. General licenses are issued in respect to ship stations on Australian ships only. Unless by special permission, wireless telegraphy appliances on ships, other than war vessels, may not be used while the ship is moored in an Australian port or harbour.

The scheme for connecting Australia and the Pacific Islands by wireless telegraphy formulated by representatives of Australia and New Zealand and approved by the Commonwealth Government, comprised the erection of stations at Sydney, at Doubtless Bay (New Zealand), and at Suva (Fiji), Ocean Island, also at Tulagi (Solomon Islands), and Vila (New Hebrides). The majority of stations recommended have been erected by the several Governments.

The Commonwealth scheme of wireless telegraphy includes three high power stations for long distance communication forming the Australian unit of the Imperial scheme, and seventeen low-power stations, located at such intervals around the coast as to allow intercommunication, and directly intended for ship to shore communication.

The stations are as follow :—

New South Wales—Sydney	Western Australia—Perth
Victoria—Melbourne	Geraldton
Queensland—Brisbane	Roebourne
Rockhampton	Broome
Cooktown	Wyndham
Thursday Island	Esperance
South Australia—Adelaide	Tasmania—Hobart
	King Island
	Flinders Island
	Northern Territory—Darwin
	Papua—Port Moresby.
	Samarai Island.

A station erected on Macquarie Island, south of Tasmania, to maintain communication between Australia and Dr. Mawson's Antarctic Expedition, was closed in 1915.

Most vessels trading with Australia are fitted with wireless installation. In accordance with the conditions of the Commonwealth license, intercommunication between ships is compulsory, and the vessels are required to carry emergency apparatus capable of operating for six hours independently of the power supplied by the ship.

The following rates are charged for ordinary radio telegrams, in addition to a land line of 1d. per word :—To or from ships licensed in Australia and New Zealand, coast station 3d. per word and ship station 2d. per word; to and from other ships, coast station 6d. per word and ship station not exceeding 4d. per word. Press messages are sent at a reduced rate.

Wireless telegrams may be exchanged between the Commonwealth and Papua through the media of the Thursday Island and Port Moresby stations, the charges for ordinary telegrams being 2d. per word in addition to the Commonwealth land line charges. Several radio-telegraph stations in the Pacific are controlled by the Commonwealth, viz. :—Kieta, Madang, Nauru, Rabaul, Woodlark Island, Kawieng, for the transaction of public correspondence; the charges, in addition to land-line charges, are 3d. per word, except to Woodlark Island, 2d. per word, and Kawieng, 4d. per word.

Radio-telegrams may be sent for transmission to vessels approaching or departing from Suva, at the rate of 10d. per word in addition to ordinary charges to Suva, and to the wireless stations at Taviuni and Labasa, Fiji, at the rate of 3d. in addition to cable rate to Suva. For radio-telegrams addressed to Noumea (New Caledonia) the Commonwealth charges are:—coast station 4d. per word, and land-line 1d. per word.

The Commonwealth charges for relaying radio-telegrams, irrespective of the number of coast stations concerned in the relaying, are as follows:—When both the ships of origin and of destination are licensed in Australia or New Zealand, 4d. per word; when only one or neither of the ships is licensed in Australia or New Zealand, 7d. per word.

Special rates apply to press messages, to reports concerning marine casualties and overdue vessels, and to messages conveying Christmas and New Year greetings to New Zealand or to vessels registered in Australia or New Zealand.

TELEPHONES.

The telephone system was established in Sydney in 1880, and exchanges have since been provided in many other important centres, the number in 1916 being 705. The first long-distance service in New South Wales was inaugurated in 1898, the connection being between Sydney and Newcastle, a distance of 102 miles. There are now several long-distance lines in operation. A telephone trunk line between Sydney and Melbourne was brought into use in 1907; Melbourne and Adelaide were connected by telephone in 1914.

The following table shows the growth of the telephone service since 1906:—

Year.	Exchanges	Connections (Subscribers' Lines).			Public Tele-phones.	Telephone Instruments in use.
		Sydney and Suburbs.	Country.	Total.		
1906	76	12,670	2,783	15,453	137*	20,373
1907	96	14,634	4,355	18,989	167*	24,363
1908	113	15,392	6,022	21,414	313	27,829
1909	132	18,239	7,443	25,682	347	31,888
1910	268	20,203	9,914	30,117	446	37,130
1911	353	22,476	12,075	34,551	722	43,032
1912	385	24,787	14,113	38,900	818	48,698
1913	451	27,676	16,169	43,845	916	53,978
1914	521	30,360	18,680	49,040	1,069	62,367
1915-16	705	32,433	19,467	51,905	1,317	69,010

* Exclusive of public telephones in country districts.

A noticeable feature of the comparison is the extension of the telephone facilities in the country districts, where the subscribers' lines increased from 2,783 in 1906 to 19,467 in 1916. In order to reduce the cost of installation in the country districts, the telegraph lines have been utilised for telephonic purposes by means of superimposed apparatus, and in 1912, the height of poles, as prescribed by statute, was reduced. The regulations provide for

the erection of telephone lines under guarantee ; but the Department erects lines where the estimated cost does not exceed £100, and in other cases is prepared to bear 50 per cent. of the deficiency.

Until recently single lines were used for all the telephones in New South Wales, but metallic circuits have been introduced in the principal exchanges.

Public Telephones.

Telephone bureaux for the use of the public are placed in prominent positions in or near public buildings, post offices, railway stations, &c. In the year 1910 there were 446 of these bureaux, and in 1916 the number had been increased to 1,317.

A charge of 2d. is made for a conversation, not exceeding 3 minutes duration, with any subscriber within the network of the exchange to which the public telephone is connected. This charge was increased from 1d. as from 10th December, 1915.

Automatic Telephones.

The first Australian exchange to be fitted with an automatic switchboard was Geelong, in Victoria, where satisfactory results were obtained. In the Sydney area the automatic system has been installed at eleven suburban exchanges.

TELEPHONE CHARGES.—*Subscribers' Rates.*

Prior to 31st January, 1907, the telephone subscribers were charged, under the flat-rate system, a fixed annual rental, irrespective of the number of calls made by them ; but on that date a toll system was introduced throughout the Commonwealth, under which extra payment was required for all calls in excess of 1,000 in each half-year.

The financial results under this system were not satisfactory, and a revised scale of charges was brought into effect on 1st September, 1910. A further revision of the telephone charges was made in 1915 ; the existing rates are as follows :—

Exchanges or Networks with Subscriber's lines connected as shown hereunder—	Radius of network with main Exchange as centre.	Annual Ground Rent within two mile radius.		
		For an exclusive service.	For each subscriber or instrument on a two-party service.	For each subscriber or instrument on a three or more party service.
	Miles.	£ s. d.	£ s. d.	£ s. d.
From 1 to 300	5	3 0 0	2 10 0	2 0 0
„ 301 to 600	5	3 5 0	2 10 0	2 0 0
„ 601 to 1,500	5	3 10 0	2 15 0	2 5 0
„ 1,501 to 4,000	10	3 15 0	3 0 0	2 10 0
„ 4,001 and upwards ...	10	4 0 0	3 0 0	2 10 0

In addition, a charge of 1d. is made for each effective call originating from a subscriber's instrument.

For these charges, all Exchange equipment, subscriber's line not exceeding 2 miles in length radially, and one telephone wall-set per subscriber are provided and maintained.

FINANCIAL RESULTS OF POSTAL SERVICES.

Viewing the postal services as important factors in the development of the country, it has not been the practice in Australia to regard the Post Office as an institution which should be self supporting; on the contrary, any financial loss incurred in the working of the services has been deemed to be counterbalanced by the national advantages gained.

The accounts system of the Department for the year ended 30th June, 1913, was placed on a commercial basis. The results for the whole Commonwealth during the last four years are compared in the following statement:—

Year ended 30th June.	Earnings.	Working Expenses.	Surplus. (+) Deficit. (—)	Interest on Capital.	Loss.
	£	£	£	£	£
1913	4,243,292	4,273,985	(—) 30,693	376,409	407,102
1914	4,523,368	4,589,602	(—) 66,234	435,223	501,457
1915	4,620,061	4,761,714	(—) 141,653	488,069	629,722
1916	5,049,569	4,841,667	(+) 207,902	523,892	315,990

The accounts for the year 1915–16 are exclusive of the figures relating to the Wireless Telegraph Branch, which was transferred to the Department of the Navy as from 1st July, 1915.

The increase in the deficit during 1914–15 was due mainly to the effect of drought and war upon the earnings and increased charges to working expenses, under the heading of depreciation, on account of assets dismantled. The results of the following year show a considerable improvement.

Particulars regarding the various branches in the State of New South Wales, during 1915–16, were as follows:—

Branch.	Earnings.	Working Expenses.	Net Earnings.	Interest on Capital.	Net Loss.
	£	£	£	£	£
Postal	1,124,619	1,096,444	28,175	38,902	10,727
Telegraph (except Wireless)	337,799	319,401	18,398	36,189	17,791
Telephone	508,594	533,411	(—) 24,817	117,465	142,282
Total, all branches	1,971,012	1,949,256	21,756	192,556	170,800

The result in New South Wales for the year 1915–16 was a loss of £170,800, the major portion being incurred in the working of the Sydney network, where the cost of operating as compared with other metropolitan areas is very high.

In the Sydney network of telephones there are 29 exchanges, and at each a day and night service is maintained. At 30th June, 1916, there were 32,438 subscribers, and the capital value, excluding sites and buildings, was £1,781,970. The direct working expenses for the year—including operating and general expenses, £90,872 and repairs and renewals, £140,361—amounted to £231,233 and the revenue was £306,508. The revenue exceeded the direct working expenses by £75,275, but if administration charges, depreciation, and interest were added, the loss on the Sydney network alone would amount to £116,000 approximately. The high cost of operation is ascribed mainly to the peculiar configuration of the city and to the large number of exchanges necessary to the network.

Details regarding the working of the postal, telegraph, and telephone services in each State of the Commonwealth are shown below—except where marked the figures represent net loss. Interest on capital has been charged at the rate of $3\frac{1}{2}$ per cent. ; and such items as subsidies to ocean mail and cable services have been distributed amongst the States on a population basis :—

Branch.	New South Wales.	Victoria.	Queensland.	South Australia and Northern Territory.	Western Australia.	Tasmania.	Total Commonwealth.
Postal	£ 10,727	(†) 119,930	£ 17,700	£ 47	£ 51,033	(†) 1,708	(†) 42,131
Telegraph	17,791	(†) 117	42,746	(†) 30,299	48,802	7,602	86,426
Telephone	142,232	60,635	8,148	(†) 4,194	55,039	9,786	271,695
Net Loss	170,800	(†) 59,412	68,594	(†) 34,446	154,874	15,580	315,990

(†) Denotes profit.

The Postal Branch showed a profit of £42,131, due to the favourable result obtained in Victoria, where the cost of mail transport is low. The operations of the Telegraph Branch involved a loss of £86,426 ; the only States showing a surplus were South Australia and Victoria, which benefited to a greater extent than the other states by an increase in cable business resulting from the war. It must be pointed out that no revenue has been credited in respect of meteorological and shipping telegrams transmitted free of charge, which, calculated at ordinary rates, amounted to £85,518, approximately.

RAILWAYS AND TRAMWAYS.

CONTROL OF STATE RAILWAYS AND TRAMWAYS.

THE control of the railways was vested in the Minister for Works, the direct management being undertaken by an officer under the title of Commissioner, until October, 1888, when the Government Railways Act of 1888, afterwards consolidated as the Government Railways Act, 1901, removed the management of the railways from political control, and vested it in three Railway Commissioners. Under the Railway Commissioners Appointment Act, 1906, the management of the railways and tramways was placed under the control of a Chief Commissioner, and two assistant Commissioners were appointed, one to assist in the management of the railways, and the other in that of the tramways.

In 1917 further alteration was made, in terms of the Government Railways Amendment Act, 1916, which provided for a Chief Commissioner and three assistant Commissioners, the duties of the latter being allotted by the Governor upon the recommendation of the Chief Commissioner. The salaries payable to the Commissioners are:—Chief Commissioner, £3,000 per annum; Assistant, appointed as deputy to the Chief, £2,600 per annum; and other Assistants, each £1,800 per annum.

RAILWAY CONSTRUCTION.

The construction of the railway lines has been undertaken generally by the Department of Public Works, the lines being transferred on completion to the control of the Railway Commissioners, who supervised duplications and deviations of existing lines. But since the commencement of the Government Railways Amendment Act, 1916, the authority to construct or complete all lines authorised by Parliament has been vested in the Railway Commissioners.

In February, 1915, a contract was made between the Government of New South Wales and the Norton Griffiths Company for the construction of certain public works, which included the following railways:—City railway and portions of the eastern and western suburban lines; Sydenham to Botany; Broken Hill to Condobolin; portions of the North Coast Railway, between Kempsey and Glenreagh; Glenreagh to Dorrigo; and sections of the Dubbo to Werris Creek, Stockinbingal to Forbes, and of the Wagga to Tumbarumba lines. The contracting company agreed to complete these works within five years from 1st July, 1915.

On 26th September, 1855, the first railway-line from Sydney to Parramatta, 14 miles in length, was opened for traffic, and communication was established between Newcastle and East Maitland on 11th April, 1857.

During the twenty years which followed the opening of the first line, railway construction progressed at a very slow rate, but from 1876 to 1889 greater activity was manifested, 1,748 miles being constructed during the period, a yearly average of 125 miles. This rate of increase was not sustained during the following decade, when the average was only 53 miles per annum. During the quinquennium 1900–4, the average rose to 115 miles. During the ten years ended June, 1915, a further length of 686 miles was brought into use, and in the two years 1914–16 the new lines opened amounted to 221 miles. The total length of line on 30th June, 1916, was 4,188 miles.

The progress in construction of the State railways of New South Wales may be traced in the table given below, the figures covering the period ending on 30th June, 1916. Included in the mileage are the Campbelltown-Camden, and Yass tramways, which are worked with the railways:—

Period.	Opened during the period.	Total opened at end of period.	Period.	Opened during the period.	Total opened at end of period.
	miles.	miles.		miles.	miles.
1855-9	55	55	1900-4	575	3,281
1860-4	88	143	1905-9	342	3,623
1865-9	175	318	1910	20	3,643
1870-4	85	403	1911	118	3,761
1875-9	331	734	1912	71	3,832
1880-4	984	1,618	1913	98	3,930
1885-9	553	2,171	1914	37	3,967
1890-4	330	2,501	1915	167	4,134
1895-9	205	2,706	1916	54	4,188

In addition to the mileage shown above there were at 30th June, 1916, 863 miles of sidings and crossovers; extensions of a total length of 1,121 miles were under construction, and 321 miles of line had been authorised for construction but not commenced.

EXTENSION OF RAILWAY FACILITIES.

The progress of the State railways can be gauged fairly by comparing the population and area of territory to each mile of line open for traffic at different periods. Thus, in 1860 there were 4,979 persons to each mile of line, but by the end of the year 1880 the work of construction had proceeded at a rate so much faster than the increase in population that the average number of persons per mile had fallen to 881, the facilities afforded by the railway being more than five times as great as in the earlier year. In 1900 the average population per mile of line was 482, and in 1916 it was 443. The decrease in the area of territory to each mile of line open has been very rapid, ranging from 4,434 square miles in 1860 to 74 square miles in 1916. The following statement shows the extension of railway facilities since 1860:—

Year.	Population to each Mile of Line open.	Area to each Mile of Line open.	Year.	Population to each Mile of Line open.	Area to each Mile of Line open.
	No.	sq. miles.		No.	sq. miles.
1860	4,979	4,433·9	1895	501	122·6
1865	2,861	2,170·4	1900	482	110·4
1870	1,471	915·6	1905	443	94·6
1875	1,360	710·2	1910	443	85·2
1880	881	365·6	1915	452	74·8
1885	548	179·2	1916	443	73·9
1890	523	142·2			

Duplication of Main Lines.

In addition to increasing the facilities by the construction of new lines, provision for the rapidly extending traffic is made by the duplication of existing main lines.

Works now in progress will duplicate the northern line to Werris Creek, 255 miles from Sydney; the western to Orange, 196 miles; the southern to Harden, 230 miles; and the South Coast line to Wollongong, 48 miles.

The following statement shows the length of line laid with one or more tracks at intervals since 30th June, 1900:—

At 30th June.	Single.	Double.	Triple.	Quadruple.	Total.
	miles.	miles.	miles.	miles.	miles.
1900	2,644	158 $\frac{3}{4}$	...	8 $\frac{1}{2}$	2,811 $\frac{1}{2}$
1905	3,079 $\frac{1}{4}$	193	...	8 $\frac{1}{2}$	3,280 $\frac{3}{4}$
1910	3,393	241 $\frac{1}{4}$	...	8 $\frac{3}{4}$	3,643
1915	3,692 $\frac{1}{4}$	406 $\frac{1}{4}$	8	27 $\frac{3}{4}$ *	4,134 $\frac{1}{4}$
1916	3,654	492 $\frac{1}{2}$	7 $\frac{1}{2}$	34*	4,188

* Includes 1 mile 9 chains with five tracks.

RAILWAY SYSTEMS.

The railways of the State are divided into three branches, each constituting a separate system.

Southern Lines.

The southern system has several offshoots serving the most thickly-populated districts, and places Sydney, Melbourne, and Adelaide in direct communication.

Numerous branches traverse the fertile Riverina district. From Culcairn there are two branch lines, one connecting with Corowa on the Murray River, and the other with Holbrook; from The Rock a line extends to Oaklands (Clear Hills); and from Wagga Wagga a branch to Tumbarumba is under construction. From Junee a branch runs to Narrandera, where it bifurcates, one branch extending westerly to the town of Hay and the other in a southerly direction to connect with the Victorian railways at Tocumwal. From Cootamundra a southerly branch carries the line to Tumut, and another, in a north-westerly direction, through Temora to Wyalong; an extension from Wyalong to Cudgellico is under construction. A branch line from Temora to Arianah Park has been continued to Mirrool, in the Murrumbidgee Irrigation Area. From Stockinbingal, between Cootamundra and Temora, a cross-country line is under construction to connect with the western system at Forbes.

From Murrumburrah a branch has been constructed to Blayney, on the western line, thus connecting the southern and western systems of the State, and from Koorawatha, on this connecting line, a branch has been laid down to join Grenfell with the railway system, and there is a branch line from Cowra to Canowindra. From Galong there is a branch to Burrowa.

Nearer the metropolis, a branch from Goulburn to Nimmitabel brings the rich pastoral district of Monaro into direct communication with the metropolis. An extension from Nimmitabel to Bombala, a distance of 40 miles, is under construction. From Goulburn also a branch line has been opened to Crookwell.

A small offshoot from the main southern line joins Campbelltown with Camden, and on the main suburban section of the southern system there are branch lines from Clyde to Carlingford, and from Lidcombe to Regent's Park.

The South Coast, or Illawarra line, which forms part of the southern system, has been constructed to Nowra, connecting the metropolis with the coastal district of Illawarra, which is rich in coal and in the produce of agriculture. From the Illawarra line a branch extends between Sydenham and Bankstown, with Liverpool as the objective.

Western Lines.

The western system of railways extends from Sydney over the Blue Mountains, and has its terminus at Bourke, a distance of 508 miles. Leaving the mountains, the western line, after throwing out a branch from Wallerawang to Mudgee and Dunedoo which will be extended to join the north-western branch of the northern system at Burren Junction, enters the Bathurst Plains, and connects with the metropolis the rich agricultural lands of the Bathurst, Orange, and Wellington districts.

At Blayney, as before stated, the western line is joined with the southern system by a branch line to Murrumburrah; at Orange a branch runs through Parkes to Condobolin; an extension from Condobolin to Broken Hill, a distance of 373 miles is under construction. At Bogan Gate a branch line has been opened to Tullamore, and its extension to Tottenham is under construction. Further west, branch lines extend from Dubbo to Coonamble, from Neverite to Warren, and from Nyngan to the important mining district of Cobar. There is a connecting line from Narromine on the main western line *viâ* Parkes to Forbes, and an extension from Forbes to Stockinbingal, on the southern line, has been commenced. From Byrock a line branches off to Brewarrina. A connecting line from Dubbo to Werris Creek on the main northern line is under construction.

The western system includes also a short line from Blacktown to Windsor and Richmond.

Northern Lines.

The northern system originally commenced at Newcastle, but a connecting line crosses the Hawkesbury River by means of the Hawkesbury Bridge, thus making Sydney the centre of the whole of the railway systems of the State, and affording direct communication between the four State capital cities of Adelaide, Melbourne, Sydney, and Brisbane, a distance of 1,791 miles.

The northern system has a branch from Tamworth to Barraba, and there is a north-westerly branch from Werris Creek, *viâ* Narrabri and Moree, to Inverell, placing the Namoi and Gwydir districts in direct communication with the ports of Newcastle and Sydney. A branch runs from Moree to Mungindi, on the border of the State of Queensland. There is also a branch line from Narrabri to Walgett, with a further branch at Burren Junction to Collarenebri East.

From Muswellbrook a branch is being constructed to Merriwa, a distance of 51 miles, a section to Denman being open for traffic. There is a short line connecting Newcastle with the tourist district of Lake Macquarie, and another line runs from East Maitland to Morpeth.

At West Maitland the North Coast railway branches from the main northern line; the construction is now proceeding in sections to meet a line which connects Murwillumbah, on the Tweed River, with Grafton, on the Clarence River; the sections from West Maitland to Wauchope, from Raleigh to Coff's Harbour, and from Glenreagh to Grafton have been opened for traffic. On the Murwillumbah-Grafton line there is a branch from Casino to Kyogle. To provide an outlet for the produce of the fertile Dorriggo district, a branch of the North Coast line, from Dorriggo to Glenreagh, has been authorised. A short line, 13 miles in length, branches off the main northern line at Hornsby, and connects with the north shore of Port Jackson at Milson's Point, whence passengers are conveyed to the city by commodious ferry steamers.

Goods Lines.

A short line from the Central Station at Sydney connects with the wharves at Darling Harbour, and a line has been constructed from the stock saleyards at Flemington on the main suburban line to the Abattoirs at Homebush Bay; these lines are used for goods and live-stock only.

On account of the rapid growth of the traffic it has been found necessary to provide a means of access to the wharves, independent of the Central Station, by the construction of a line from Flemington to join the Sydenham-Bankstown branch of the South Coast line at Campsie, and a line from Wardell-road, also on this branch, to Darling Island, with a new shipping depôt at Glebe Island.

An extension from Sydenham has been authorised to serve the important manufacturing district of Botany.

Burrinjuck Railway Line.

In addition to the lines under the control of the Railway Commissioners a 2 feet gauge railway has been constructed at a cost of £76,200 from the main southern line at Goondah to the site of the Burrinjuck Storage Reservoir, a distance of 26 miles. This line is controlled by the Water Conservation and Irrigation Commission, and is used mainly for the conveyance of material to the site of the works.

Commonwealth Railways in New South Wales.

A short railway, 5 miles in length, has been constructed from Queanbeyan, on the Cooma-Nimmitabel branch, to connect Canberra, the Federal Capital, with the State railway system. The work of construction was undertaken on behalf of the Commonwealth Government by the Public Works Department of New South Wales, at a charge of 5 per cent. in addition to capital outlay. The line was opened for departmental goods traffic in May, 1914, and is worked by the New South Wales Government on behalf of the Commonwealth. A trial survey of a line from Canberra to Yass has been made.

Under the "Seat of Government Acceptance Act" the Commonwealth Government has the right to construct a line from Canberra to Jervis Bay, 135 miles; a preliminary survey of the route has been made.

STATE BORDER RAILWAYS.

At a conference of representatives of the Government of New South Wales and Victoria an agreement was drawn up with a view to extending the Victorian railways across the border to serve large areas in the Riverina district, which are situated beyond the scope of the existing New South Wales system, and which cannot be advantageously cultivated without railway facilities.

A Bill for the ratification of the agreement was submitted to Parliament, and passed by the Legislative Assembly of New South Wales, but in the Upper House it was abandoned. Subsequently several proposals were referred for investigation to a Royal Commission consisting of representatives of New South Wales and Victoria. In a majority report the Commission recommended the construction of two 5 ft. 3 in. gauge railways, viz., from Moama to Moulamein, about 82 miles; and from Kerang to Balranald, 82 miles. The cost of construction, exclusive of land and rolling-stock, was estimated at £345,000 and £376,000 respectively.

SYDNEY AND SUBURBAN PASSENGER SERVICE.

A portion of the passenger traffic between Sydney and suburbs is conducted by suburban railways and ferry services, but the tramways form the most important means of communication.

The railway suburban traffic is conducted principally on the main trunk line, which runs in a westerly direction from Sydney to Granville, where the main southern and western railway systems separate; the main northern system begins at Homebush (8 miles from Sydney). The South Coast railway, which has a branch from Sydenham (3 miles) to Bankstown (11 miles), brings passengers from the suburbs situated south of Sydney on the western shore of Botany Bay. The passengers travelling by these lines, however, are conveyed to and from the Central Station by trams running through the city streets.

The populous suburbs of the north-western, central, and eastern divisions of the metropolitan area are served entirely by the tramways. On the north shore of Port Jackson there is a railway to connect the ferry service at Milson's Point with Hornsby on the main northern line; with this exception all the passengers from the northern suburbs connect by tramway at various points with the ferry services to the Circular Quay.

On account of the expansion of the commercial interests of New South Wales, and the consequent growth of population in and around Sydney, where the trade of the State is centralised, the tramway system has been extended steadily, but the requirements of suburban traffic are gradually outgrowing the capacity of the main city thoroughfares, which were not originally designed for this class of traffic. Thus the extension of the tramway system, combined with the increase in the mercantile vehicular traffic, has resulted in a state of congestion in some of the city streets that demands remedy. The urgent necessity is now recognised of supplying a more effective method of dealing with the rapidly increasing traffic than is possible under any system of surface tramways.

Proposed Improvements.

In connection with this matter a Royal Commission for the Improvement of the City of Sydney and its Suburbs, in 1909 recommended the immediate introduction of a system of underground electric railways to deal comprehensively with the whole suburban area.

The scheme recommended by the Commission embraced a city railway, the connection of Sydney and North Sydney, an eastern suburbs railway, with branches to serve the sports grounds, and a western suburbs railway.

More recently, in 1912, a special branch of the Department of Public Works was created to deal exclusively with proposals for the improvement of the methods of handling the passenger traffic in the city and the question of connection between the northern and southern shores of Sydney Harbour. The report of an expert, engaged by the Government to make an inquiry into these matters, was submitted to Parliament in October, 1912, and a bridge over the harbour was recommended as the best means of connecting Sydney with North Sydney for both railway and roadway purposes. Further particulars regarding the proposed harbour bridge are given in the part, "Local Government," of this volume.

As regards city transit, underground electric railways were advised as follows:—A double-line loop railway to continue the existing main lines into the city and to Circular Quay, with a branch running over the Harbour bridge. A western suburbs line in the form of a circle, commencing at the Sydney Town Hall, passing under Darling Harbour to Balmain and Leichhardt, and returning past the University to the city. An eastern suburbs line, commencing at Wynyard Square and terminating at Bondi Junction. It was recommended also that the King-street tramway be placed underground.

The cost of these works, exclusive of alterations or additions to Central Station, electrical equipment, thermit welding, wiring, bonding rails, signals, and lighting, was estimated at £4,417,261.

Two underground lines were proposed for goods traffic only—one from Circular Quay to Woolloomooloo Bay, as a branch of the city railway, and the other from the existing goods lines at Darling Harbour to Woolloomooloo Bay. The cost of these lines on the basis of single line tunnels, exclusive of electrical equipment, thermit welding, wiring, bonding rails, signals, and lighting, was estimated at £69,933 and £98,809 respectively.

In October, 1913, a Bill to authorise the construction of a city railway was submitted to Parliament. The design included an underground loop railway around the city, joining the existing railway system near Redfern Station, and comprising three up and three down tracks; and double lines of tramway to connect the eastern and western suburban tram services with the city railway, the total length of the connection for the eastern suburbs being 1 mile 18½ chains, and for the western suburbs 1 mile 15½ chains. The cost of the work was estimated at £4,800,000.

This Bill was rejected by the Legislative Council, but in 1915 the City Railway and portions of the Eastern and Western Suburbs Railways to Bondi Junction and Weston-road, Balmain, respectively, were included in the list of works to be carried out by the Norton Griffiths Company under contract with the New South Wales Government, and the City and Suburban Electric Railways Act was passed. The design, as outlined in the Schedule of the Act, includes the city railway, with two up and two down tracks forming a loop round the city, the total length is 16 miles 52 chains of single track, of which 8 miles 66 chains are below ground; the Eastern Suburbs Railway, double track throughout of a total length of 8½ miles of single track; and the Western Suburbs Railway, double track throughout, connecting with the main suburban line between Stanmore and Petersham Stations, the total length being 5 miles 44 chains of single track. The estimated cost, exclusive of land resumption is £6,400,000.

GRADIENTS OF RAILWAYS.

In many cases the railways of New South Wales pass through mountainous country, and have been constructed with a large proportion of steep gradients, some of the heaviest being situated on the trunk lines.

In the southern system, the line at Roslyn, near Crookwell, reaches an altitude of 3,225 feet above sea level; in the western, at Newnes Junction, on the Blue Mountains, a height of 3,503 feet is attained; and on the northern line the highest point, 4,473 feet, is reached at Ben Lomond.

Numerous deviations have been made during recent years in order to secure easier grades and curves, with the result that considerable economy in working and expedition in traffic have been effected.

The following statement shows the number of miles on different gradients in June, 1916:—

Gradients.	Southern System.	Western System.	Northern System.	Total.
1 in	miles.	miles.	miles.	miles.
18 to 30	3½	...	...	3½
31 „ 40	47	62½	33	142½
41 „ 50	59¾	49½	76	185¼
51 „ 60	53¼	66	56¾	176
61 „ 70	50¾	55¼	35¾	141¾
71 „ 80	136½	79½	143½	359½
81 „ 90	38	38½	43	119½
91 „ 100	89¾	110¾	80¾	281¼
101 „ 150	127½	136	137½	401
151 „ 200	83¼	73½	80¾	237½
201 „ 250	45¾	32¼	37¾	115¾
251 „ 300	60¾	59	57¼	177
301 „ level	579½	568	658¾	1,806¼
Total ..	1,375¼	1,330¾	1,440¾	4,146¾

The above table is exclusive of the Government line from Broken Hill to Tarrawingee, measuring 40 miles 7 chains, and that at Wollongong of 1 mile 8 chains, the total length of these lines being 41 miles 15 chains.

COST OF RAILWAY CONSTRUCTION.

The average cost per mile open for traffic of the Government Railway lines, excluding expenditure for rolling-stock, machinery, furniture, and workshops and stores, has been £12,738—an amount which is by no means high, considering the character of some parts of the country through which the lines have been carried, and the cost of labour. In considering in detail the figures given, it is interesting to note the comparatively low cost per mile of some of the extensions through pastoral country. These are known as the “pioneer” class, and are of a light and cheap kind, on which the produce of the settlers may be conveyed to the trunk lines at a reasonable speed, and at a cheaper rate than carriage by road. The average cost of the line from Parkes to Condobolin was £2,111 per mile; Burren Junction to Collarenebri

East, £2,446 per mile; from Byrock to Brewarrina, £2,736 per mile; and from Dubbo to Coonamble, £2,826 per mile. The cost of construction of the various branches of the railway systems to 30th June, 1916, is set forth in the following table:—

Lines opened for Traffic.	Length.		Total Cost.	Average Cost per Mile.
	m.	ch.	£	£
GOODS LINES.				
Darling Harbour Branch, Sydney	1	49½	954,305	589,532
Flemington to Homebush Bay	2	13	82,711	38,248
Flemington to Belmore and Wardell-road to Glebe Island.	10	77¾	1,933,542	176,227
MAIN SOUTHERN LINE.				
Sydney to Granville	15	38½	3,165,274	204,459
Granville to Goulburn	122	72¾	3,612,077	29,388
Goulburn to Wagga	184	12	3,370,280	18,302
Wagga to River Murray	79	15½	951,757	12,019
Branch Lines.				
Lidcombe to Regent's Park	1	75¾	27,045	13,891
Clyde to Carlingford	4	39½	33,605	7,483
Campbelltown to Camden	7	66½	46,386	5,923
Yass Tramway	2	78	29,230	9,825
Goulburn to Crookwell	35	43	160,009	4,503
Joppa Junction to Nimmitabel	151	54½	1,532,787	10,106
Galong to Boorowa	17	6¾	119,403	6,989
Murrumburrah to Blayney, on Western Line	110	50	1,117,608	10,103
Koorawatha to Grenfell	32	24	117,495	3,638
Cowra to Canowindra	23	51	138,416	5,856
Cootamundra to Tumut	65	22½	537,494	8,233
Cootamundra to Temora	38	72	212,444	5,461
Temora to Wyalong	41	26	127,225	3,083
Temora to Borellan	61	41¾	210,770	3,426
Junee to Hay	168	43½	1,024,148	6,077
Narrandera to Finley	100	70½	499,527	4,966
Finley to Tocumwal	11	7½	37,869	3,414
The Rock to Oaklands	77	44½	282,876	3,648
Culcairn to Holbrook	16	61	60,794	3,627
Culcairn to Corowa	48	3	234,479	4,881
MAIN WESTERN LINE.				
Granville to Penrith	20	72½	622,133	29,758
Penrith to Bathurst	111	3¾	4,048,172	36,455
Bathurst to Dubbo	137	67¾	1,567,105	11,368
Dubbo to Bourke	225	51¾	1,375,760	6,097
Branch Lines.				
Blacktown to Richmond	16	19½	182,586	11,240
Wallerawang to Dunedoo	134	53	1,207,977	8,970
Blayney to Murrumburrah (see Southern Line)				
Orange to Forbes	96	51½	672,481	6,959
Parkes to Condobolin	62	60½	132,496	2,111
Parkes to Peak Hill	31	26½	137,084	4,375
Bogan Gate to Tullamore	37	66½	127,683	3,375
Dubbo to Coonamble	95	79½	271,289	2,826
Narromine to Peak Hill	36	62½	120,095	3,265
Nevertire to Warren	12	29½	41,318	3,341
Nyngan to Cobar and The Peak	85	26½	323,069	3,766
Byrock to Brewarrina	58	42	160,104	2,736

Lines opened for Traffic.	Length.		Total Cost.	Average Cost per Mile.
MAIN NORTHERN LINE.				
	m.	ch.	£	£
Homebush to Waratah	95	57	3,538,235	36,967
Newcastle to Wallangarra	393	59½	6,043,804	15,349
Branch Lines.				
Hornsby to Milson's Point	13	36¾	771,138	57,294
Fassifern to Toronto	2	55	20,075	7,470
Bullock Island	4	70½	668,399	137,020
Morpeth	3	47¾	61,482	17,093
Muswellbrook to Denman	15	68¾	71,073	4,481
Werris Creek to Narrabri West	96	58	636,118	6,577
Narrabri Junction to Inverell	158	78½	511,558	3,218
Narrabri West to Walgett	106	9	327,668	3,088
Burren Junction to Collarenebri East	42	44½	104,070	2,446
Tamworth West to Barraba	61	50½	257,508	4,178
Moree to Garah	36	30½	165,757	4,556
Garah to Mungundi	40	51½	199,165	4,900
NORTH COAST LINE.				
West Maitland to Taree... ..	115	36¾	1,636,296	14,172
Murwillumbah to Grafton	149	9	1,388,195	9,310
Casino to Kyogle	17	71½	90,063	5,034
Taree to Wauchope	47	37½	522,768	11,014
Coff's Harbour to Raleigh	13	23¾	86,052	6,472
Glenreagh to South Grafton	27	18	295,370	10,849
SOUTH COAST (ILLAWARRA) LINE.				
Sydney to Nowra... ..	97	55½	4,029,602	41,249
Branch Line.				
Sydenham to Bankstown	8	33½	280,971	33,374
BROKEN HILL LINE.				
Broken Hill to Tarrawingee	40	7	32,929	821
Total, All Lines	4,188	0½	53,347,207	12,738

The amount expended on rolling-stock, &c., to 30th June, 1916, was £15,478,385:—Rolling stock, £12,559,165; machinery, £863,158; workshops, £842,026; furniture, £10,036; stores advance account, £1,204,000. Thus the total capital expenditure amounted to £68,825,592, an average of £16,434 per mile. The growth of the capital expenditure may be seen in the following table:—

Period.	Capital expended during period.	Total capital expended to end of period.	Period.	Capital expended during period.	Total capital expended to end of period.
	£	£		£	£
1855-9	1,278,416	1,278,416	1890-4	6,016,104	35,855,271
1860-4	1,353,374	2,631,790	1895-9	2,137,005	37,992,276
1865-9	2,049,539	4,681,329	1900-4	4,296,241	42,288,517
1870-4	2,163,217	6,844,546	1905-9	5,324,149	47,612,666
1875-9	3,561,949	10,406,495	1910-14	13,652,203	61,264,869
1880-4	9,673,643	20,080,138	1915	4,318,405	65,583,274
1885-9	9,759,029	29,839,167	1916	3,242,318	68,825,592

Of the £68,825,592 expended to 30th June, 1916, an amount of £657,379 has been provided from the Consolidated Revenue of the State, leaving a balance of £68,168,213, which has been raised by the issue of debentures and other stock. The net revenue for the year ended 30th June, 1916, after paying working expenses, was £2,344,910, which gave a return of 3·4 per cent. upon the total capital expenditure.

WORKING EXPENSES AND EARNINGS.

While the primary object of State railway construction has been to promote settlement, apart from consideration of the profitable working of the lines, the principle has nevertheless been kept in view that the railways should be self-supporting.

A statement of the capital cost of the State Railways and Tramways, and the result of working during the last two years, is shown below:—

Particulars.	1915.			1916.		
	Railways.	Tramways.	Railways and Tramways.	Railways.	Tramways.	Railways and Tramways.
	£	£	£	£	£	£
Cost of Construction and Equipment at 30th June ..	65,583,274	7,970,293	73,553,567	68,825,592	8,166,423	76,992,015
Year ended 30th June—						
Earnings	7,616,511	1,956,060	9,602,571	8,003,078	1,991,528	9,997,706
Working Expenses	5,311,162	1,611,286	6,922,448	5,661,168	1,602,650	7,263,818
Balance after paying Working Expenses	2,305,349	374,774	2,680,123	2,344,910	388,978	2,733,888
Interest on Capital	2,328,630	284,639	2,613,319	2,568,659	302,686	2,871,345
Surplus	(—) 23,331	90,135	68,804	(—) 223,749	86,292	(—) 137,457

A statement of the working expenses and earnings of the railways during the year ended 30th June, 1916, is shown below:—

Working Expenses.	Earnings.
£	£
Maintenance of Way, Works, and Buildings 895,526	Passengers 3,147,041
Locomotive Power 2,379,877	Mails, Parcels, Horses, &c. ... 427,022
Greasing and Oiling Carriages and Waggon 5,650	Total Coaching 3,574,063
Carriage and Waggon Repairs and Renewals, &c. 531,772	Goods—
Traffic Expenses 1,638,942	Merchandise 2,450,161
Compensation 21,906	Live Stock 888,941
General Charges 179,634	Wool 290,570
Gratuities, &c. 5,861	Minerals 700,299
Fire Insurance Fund 2,600	Total Goods 4,329,971
5,661,168	Rents 77,513
Balance, Net Earnings 2,344,910	Miscellaneous 24,531
Total £ 8,006,078	Total £ 8,006,078

The expenditure on locomotive power amounted to 42 per cent. of the total; traffic expenses to 29 per cent.; and maintenance of way, works, and buildings to 15·8 per cent. Of the earnings 39·3 per cent. was derived from the carriage of passengers, 5·3 per cent. from mails, parcels, &c., and 54·1 per cent. from the conveyance of goods.

As the carriage of goods and live stock constitutes the principal source of railway revenue, the earnings fluctuate in each year in accordance with the type of seasons experienced in the agricultural and pastoral districts. In unfavourable seasons the carriage of fodder and the transfer of live stock at reduced rates cause a diminution in the earnings, and at the same time an increase in the working expenses. The extension of the lines into sparsely settled districts also causes an increase in the proportion of working expenses to total earnings, as several of these lines return little more than cost of maintenance.

The following table shows the gross earnings, working expenses, and the proportion of the expenditure to receipts, in stated years from 1855 up to 30th June, 1916. Since the year 1887 the railway accounts have been made up to 30th June in each year:—

Year.	Gross Earnings.	Working Expenses.	Proportion of working expenses to gross earnings.	Year.	Gross Earnings.	Working Expenses.	Proportion of working expenses to gross earnings.
	£	£	per cent.		£	£	per cent.
1855	9,249	5,959	64·4	1890	2,633,086	1,665,835	63·3
1860	62,269	50,427	81·0	1895	2,878,204	1,642,589	57·1
1865	166,032	108,926	65·6	1900	3,163,572	1,844,520	58·3
1870	307,142	206,003	67·1	1905	3,684,016	2,216,442	60·2
1875	614,648	296,174	48·2	1910	5,485,715	3,276,409	59·7
1880	1,161,017	647,719	55·8	1915	7,616,511	5,311,162	69·7
1885	2,174,368	1,458,153	67·1	1916	8,006,078	5,661,168	70·7

The working expenses during the year ended 30th June, 1916, represented 70·7 per cent. of the gross earnings. In 1907 the proportion was 53·0 per cent., the lowest since the control of the railways was vested in Commissioners, but the percentage has risen steadily since that year, the increase being due mainly to advances in the salaries and wages of the staff.

NET EARNINGS AND INTEREST ON CAPITAL.

The net revenue from railways for the year ended 30th June, 1916, was £2,344,910; while the capital expended on lines open for traffic to that date was £68,825,592. The amount thus available, to meet the interest charges on the capital expended, represents a return of 3·4 per cent. The following table shows the net earnings and the interest returned on the total capital

expended on railways, including the cost of construction and equipment for the year 1855 and subsequent periods:—

Year.	Net Earnings.	Interest on Capital.	Year.	Net Earnings.	Interest on Capital.
	£	per cent.		£	per cent.
1855	3,290	0·63	1899	967,251	3·17
1860	11,842	0·83	1895	1,235,615	3·31
1865	57,106	2·07	1900	1,319,052	3·43
1870	101,139	1·81	1905	1,467,574	3·40
1875	318,474	4·39	1910	2,209,306	4·58
1880	513,298	4·35	1915	2,305,349	3·60
1885	716,215	3·37	1916	2,344,910	3·45

Owing to the general prosperity ruling throughout the State the profits during 1906 to 1912 were highly satisfactory; a decrease occurred in the years 1913 and 1914, due, as stated previously, to increased cost of working. During the year 1914-15 the abnormal conditions of war and drought caused a further decline in the earnings; steps were taken, however, to reduce the working expenditure. The decrease in the rate of return on the capital expenditure in 1915-16 may be assigned to various causes, viz.:—Increases in wages, increased cost of materials, the transport of troops and war materials at half rates, and the payment to employees on active war service of the difference between their departmental and military pay.

In the discussion of the financial results of the working of the lines, it is the practice of railway authorities to compare the net returns with the nominal rate of interest payable on the railway loans or on the public debt of the State. An accurate comparison, however, can be made only by taking the average rate of interest payable on the actual sum obtained by the State for its outstanding loans, inasmuch as many loans were floated below par.

The table below shows the rate of interest returned on the capital expenditure for each of the years since 1906, with the sum by which such return falls short of or exceeds the actual rate of interest payable on the cost of construction. The rate of return on capital represents the interest on the gross cost of the lines:—

Year.	Interest returned on Capital.	Actual rate of Interest payable on Cost of Construction.	Gain (+) or Loss (—).
	per cent.	per cent.	per cent.
1906	4·42	3·68	+0·74
1907	4·96	3·63	+1·33
1908	4·88	3·65	+1·23
1909	4·45	3·65	+0·80
1910	4·58	3·53	+1·05
1911	4·67	3·59	+1·08
1912	4·41	3·60	+0·81
1913	3·76	3·49	+0·27
1914	3·87	3·67	+0·20
1915	3·60	3·67	—0·07
1916	3·45	3·78	—0·33

The railways being owned by the State, public opinion at once demands a reduction in freights and rates, when the net earnings are much in excess of the interest requirements; substantial reductions were made in 1911 and 1912, but season ticket fares and certain goods rates were increased, as from 1st July, 1913, in anticipation of an increase in working expenses, and further increases were made on 1st March, 1914.

COACHING AND GOODS TRAFFIC.

For the first ten years after the opening of the first railway in New South Wales the larger part of the earnings was obtained from the passenger traffic, no doubt owing to the fact that the first lines were entirely suburban. It was not until the line crossed the mountains and opened up the interior that the proportions changed, and the goods traffic became the principal source of revenue. This change began in 1867.

The following table gives the proportion of earnings from the coaching and goods traffic at intervals since 1860. The percentages shown below include earnings from miscellaneous sources and rents, and therefore differ slightly from those stated on a previous page:—

Year.	Proportion of Total Earnings.		Year.	Proportion of Total Earnings.	
	Coaching, &c.	Goods and Live Stock.		Coaching, &c.	Goods and Live Stock.
	per cent.	per cent.		per cent.	per cent.
1860	73·0	27·0	1895	35·5	64·5
1865	56·0	44·0	1900	38·8	61·2
1870	38·4	61·6	1905	39·9	60·1
1875	33·5	66·5	1910	39·9	60·1
1880	33·6	66·4	1915	44·7	55·3
1885	38·2	61·8	1916	45·8	54·2
1890	40·2	59·8			

It will be observed that in the year 1860 the earnings from passenger traffic largely exceeded those from goods, but after that year the proportion derived from coaching traffic declined, reaching the minimum in 1875. This falling-off was due almost entirely to the considerable extension of the main lines through pastoral country, thinly populated, but well stocked with sheep and cattle, and consequently furnishing the railways with large quantities of produce for carriage to the sea-board. From 1880 to 1889, however, the percentage of receipts from coaching traffic advanced steadily, the proportion in the year last named being as high as 40·4 per cent. of the total revenue. A decline of the coaching traffic is noticeable in 1895, followed by increases for the years 1900 and 1905, with only slight variations of the figures in subsequent years until 1910; during the three years 1911-13 the percentage of earnings from coaching traffic increased steadily, and for the year 1913 the high percentage of 45·0 is shown. In 1916 the percentage was 45·8.

Coaching Traffic.

The following table shows the number of passenger journeys and the receipts from coaching traffic since 1855:—

Year.	Passenger Journeys.	Gross Earnings from Coaching Traffic.	Per head of population.	
			Passenger Journeys.	Gross Earnings from Coaching Traffic.
	No.	£	No.	s. d.
1855	98,846	9,093	0·4	0 8
1860	551,044	45,428	1·6	2 8
1865	751,587	92,984	1·9	4 8
1870	776,707	117,854	1·6	4 10
1875	1,288,225	205,941	2·3	7 1
1880	5,440,138	390,149	7·5	10 8
1885	13,506,346	830,904	14·6	17 11
1890	17,071,945	1,041,607	15·8	19 3
1895	19,725,418	1,001,107	15·9	16 2
1900	26,486,873	1,195,496	19·7	17 6
1905	35,158,150	1,428,190	24·4	19 10
1910	53,644,271	2,124,292	33·6	26 7
1915	88,774,451	3,315,294	47·7	35 7
1916	92,850,838	3,574,063	49·9	38 5

The increase in the number of journeys per head of population has been exceedingly rapid, the average being 49·9 per head in 1916, as compared with 19·7 in 1900 and 7·5 in 1880.

The receipts from coaching traffic per head of population advanced very rapidly until 1890, when the amount stood at 19s. 3d., against 10s. 8d. in 1880. This was due not so much to the increased distance travelled by passengers as to the fact that the railway mileage increased at a greater rate than the population, enabling the public to indulge in a larger measure of railway travelling. Subsequently to 1891 the average lessened for a period, but in recent years a further rise is evident, and the amount per capital is now 38s. 5d. as compared with 19s. 10d. in 1905.

Particulars regarding the passenger traffic on suburban and country lines during the year ended 30th June, 1916, are shown below; suburban lines include distances within 34 miles of Sydney and Newcastle:—

Description.	First Class.	Second Class.	Total.
SUBURBAN LINES.			
Ordinary Passengers	6,042,314	30,295,417	36,337,731
Season Ticket Holders' Journeys	7,585,080	15,786,090	23,371,080
Workmen's Journeys ... ..	.....	23,943,996	23,943,996
Total Passenger Journeys	13,627,394	70,025,413	83,652,807
Miles Travelled	96,034,560	489,961,313	585,995,813
Average Mileage per Passenger	7·05	7·00	7·01
Amount Received from Passengers	£ 234,799	820,190	1,054,890
Average Receipts per Passenger per Mile	d. 59	40	43
COUNTRY LINES.			
Passengers	2,248,548	6,949,483	9,198,031
Miles Travelled	231,838,129	453,657,257	735,495,386
Average Mileage per Passenger	125·34	65·28	79·96
Amount Received from Passengers	£ 912,023	1,180,128	2,092,151
Average Receipt per Passenger per Mile	d. 78	62	68

Passenger Fares.

For suburban lines, that is, within 34 miles of Sydney and Newcastle, where the volume of traffic is greatest, the rates of passenger fares are lower than for equal distances outside that radius.

The issue of return tickets to passengers was practically abolished in May, 1911, except in those cases where the volume of return traffic would cause inconvenience to travellers, such as on suburban lines and for excursions. The single fares were reduced, so that two single tickets were available at about the same cost as a return ticket under former systems.

The following table affords information regarding the rates on suburban and country lines, as from 1st March, 1914:—

Distance.	Single Fares.		Periodical Tickets.					
	1st Class.	2nd Class.	Workmen's Weekly.	Monthly.		Half-yearly.		
			2nd Class.	1st Class.	2nd Class.	1st Class.	2nd Class.	
<i>Suburban Lines.</i>								
miles.	s. d.	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
1	0 2	0 1	0 9	0 9 0	0 6 0	1 19 0	1 6 0	
5	0 5	0 4	1 9	0 19 3	0 13 0	4 3 0	2 15 9	
10	0 9	0 6	2 6	1 7 3	0 18 0	5 17 6	3 17 6	
15	1 1	0 9	2 11	1 12 0	1 1 3	6 19 3	4 12 9	
20	1 6	0 11	3 4	1 16 3	1 4 3	7 16 6	5 5 6	
25	1 10	1 3	3 9	1 19 3	1 6 6	8 9 6	5 14 3	
30	2 2	1 5	4 2	2 1 0	1 7 3	8 18 3	5 18 6	
34	2 6	1 7	4 6	2 3 0	1 8 3	9 5 0	6 1 9	
<i>Country Lines.*</i>								
50	4 7	3 0	.....	2 9 3	1 11 6	10 12 9	6 16 0
100	11 2	7 4	.....	3 9 3	2 1 6	14 19 0	8 19 0
200	24 3	15 5	.....	4 19 6	2 18 9	21 0 0	12 7 9
300	37 5	23 1	.....	6 0 6	3 13 9	24 9 0	14 18 9
400	50 6	30 0	.....	7 1 6	4 8 9	27 18 0	17 9 9
500	60 9	35 0	.....	8 2 6	5 3 9	31 7 0	20 0 9

* Including suburban rates for 34 miles.

The above rates represent the maximum charges, but concessions, amounting in some instances to half the ordinary charges, are made in respect to periodical tickets to school pupils, youths, and women. In respect of single journeys, special rates are quoted for parties travelling in connection with shows, conferences, athletic sports, &c., and for assisted immigrants and others. Cheaper fares are available for journeys to tourist districts and holiday resorts.

Goods Traffic.

The following figures, extending as far back as the opening of the railway lines, show how greatly the goods traffic has expanded, especially in recent years:—

Year.	Goods and Live Stock Traffic.		Per head of Population.	
	Tonnage.	Gross Earnings.	Tonnage.	Gross Earnings.
		£		£ s. d.
1855	140	156	...	0 0 1
1860	55,394	16,841	0·2	0 1 0
1865	416,707	73,048	1·2	0 3 8
1870	766,523	189,288	1·6	0 7 9
1875	1,171,354	408,707	2·2	0 14 0
1880	1,712,971	770,868	2·4	1 1 2
1885	3,273,004	1,343,464	3·5	1 9 0
1890	3,788,950	1,569,356	3·5	1 9 0
1895	4,075,093	1,855,187	3·3	1 9 11
1900	5,531,511	1,936,217	4·1	1 8 5
1905	6,724,215	2,213,105	4·7	1 10 9
1910	8,393,038	3,290,640	5·3	2 1 3
1915	11,920,881	4,206,234	6·4	2 5 2
1916	11,915,500	4,329,971	6·4	2 6 6

The revenue from goods and live-stock traffic per head of population rose rapidly from the opening of the lines until the year 1883, when it stood at 30s. 4d. Bad seasons in subsequent years caused a falling-off, so that by 1888 the average was only 27s. per inhabitant. For a number of years afterwards there was a steady increase, and in 1892 the average stood at 33s. Subsequently the amount per head decreased; an improvement was, however, presented in 1899, 1901, 1902, and in each year from 1905 to 1911 the average rose steadily. During the two years 1912 and 1913 the earnings were affected by a reduction in the freights, but in 1914 there was a very satisfactory increase; the decline in 1915 was due mainly to the failure of the wheat crop, and in 1916 to decreased earnings from the carriage of wool and live stock.

A statement showing the class of goods carried on the railways since 1900 is shown below:—

Year ended 30th June.	General Merchandise.		Wool.	Live Stock.	Minerals.		Total Goods.
	Grain, Flour, &c. (Up Journey).	Other.			Coal, Coke, and Shale.	Other.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1900	361,052	1,151,564	84,678	188,595	3,406,769	338,853	5,531,511
1905	522,755	1,398,443	90,572	174,424	4,169,076	368,945	6,724,215
1910	608,405	2,100,203	138,779	463,669	4,553,965	528,017	8,393,038
1915	482,876	2,849,908	132,895	849,604	6,649,704	955,894	11,920,881
1916	852,019	2,753,295	111,083	797,065	6,410,503	991,535	11,915,500

Freight Charges.

The accompanying statement shows the receipts per ton for carrying goods one mile along the lines of the State. The information relates back to 1872, when the charge was 3·6d., and after an interval of forty years it had fallen to 0·9d. The decrease, however, is to some degree only apparent, inasmuch as it represents a more extensive development of the mineral trade than of the carriage of general merchandise; but when due allowance has

been made, it will be found that the benefit to the general producer and consumer has been very substantial, especially in regard to agricultural produce and live-stock:—

Year.	Charge.	Year.	Charge.	Year.	Charge.
1872	3·6d.	1895	1·6d.	1912	0·9d.
1875	3·1d.	1900	1·5d.	1913	0·9d.
1880	2·3d.	1905	1·2d.	1914	0·9d.
1885	1·9d.	1910	1·0d.	1915	0·9d.
1891	1·9d.	1911	0·9d.	1916	0·9d.

The rates for various classes of freight as from 18th March, 1914, to 12th December, 1916, are shown below; on the latter date further increases were made. The highest class freight includes expensive, bulky, or fragile articles, such as boots, drapery, drugs, groceries, furniture, liquors, crockery, glass-ware, cutlery, ironmongery, confectionery, and carpets; the lowest class includes agricultural produce, ore, manures, coal, coke, shale, firewood, limestone, stone, slates, bricks, rabbit-proof netting, timber in logs, and post and rails:—

Class of Freight.	Charge per ton for haulage of—					
	50 miles.	100 miles.	200 miles.	300 miles.	400 miles.	500 miles.
Ordinary Goods—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Highest class freight ...	25 4	49 5	86 1	109 0	118 2	127 4
Lowest „ „ ...	5 3	8 11	14 2	17 4	19 5	21 6
Agricultural Produce (Up journey) ...	5 0	7 6	9 6	10 6	11 4	12 0
Butter „ „ „ „ ...	11 0	20 9	36 9	48 3	55 1	62 0
Beef, Mutton, Veal, Pork, &c. „ „ „	4 7	9 2	18 4	27 6	36 8	45 10
Wool—Greasy „ „ „ „	12 6	25 0	45 10	58 4	64 7	68 9
Scoured „ „ „ „	14 7	29 2	52 1	64 7	70 10	75 0
Minerals—Crude ore not exceed- ing £20 per ton in value „ „	2 1	4 2	8 4	11 6	13 7	15 8
Live Stock, per truck „ „	36 8	69 8	108 8	136 2	163 8	191 2

EXPANSION OF TRAFFIC.

The remarkable expansion which has taken place in the volume of traffic on the railways of New South Wales will be seen from the following comparison; the earnings during the quinquennium 1912-16, show an increase of £10,395,378, or 40 per cent., as compared with the earnings during the previous five years. The number of passengers has increased by 63 per cent., and the tonnage of goods and live-stock, &c., by 27 per cent.

		Five years ended 30th June, 1911.	Five years ended 30th June, 1916.	Increase.	Percentage increase.
Earnings—					
Coaching Traffic „ „	£	10,380,420	16,218,844	5,838,424	56
Goods and Live Stock „ „	£	13,641,741	17,715,788	4,074,047	30
Coal and Coke „ „	£	2,187,749	2,670,656	482,907	22
Total earnings „ „	£	26,209,910	36,605,288	10,395,378	40
Passengers „ „ „	No.	255,515,569	418,150,450	162,634,881	63
Goods and Live Stock „ „	Tons	17,995,920	25,430,217	7,434,297	41
Coal and Coke „ „	Tons	29,020,833	34,228,809	5,207,976	18
Total Tonnage „ „		47,016,753	59,659,026	12,642,273	27

ROLLING-STOCK.

Information regarding the rolling-stock of New South Wales Railways on 30th June, 1915 and 1916, appears in the following table:—

Classification.	1915.	1916.	Classification.	1915.	1916.
Locomotives—			Merchandise—		
Engines	1,162	1,211	Goods, open	15,140	15,264
Tenders	945	987	Goods, covered	1,003	965
Coaching—			Meat trucks	392	428
Special & sleeping cars	95	95	Live-stock trucks	2,548	2,759
First-class	413	426	Brake-vans	501	556
Composite	201	210			
Second-class	858	895	Total	19,584	19,972
Brake-vans	162	161			
Horse-boxes, carriages, trucks, &c.	282	283	Departmental Stock—		
Total	2,011	2,070	Loco. coal, ballast, &c., waggons	1,469	1,763

MAINTENANCE OF PERMANENT WAY.

During the year ended 30th June, 1916, the total length of line wholly or partially renewed by relaying, re-sleepering, or re-railing was 173 miles 5 chains, and 326 miles 1 chain were re-ballasted, thus making a total of 499 miles 6 chains of line either partially or completely renewed. In this work 323,666 sleepers and 124,069 cubic yards of ballast were used.

The total weight of rails used in relaying and re-railing work during the year amounted to 6,269 tons.

SIGNALLING AND SAFETY APPLIANCES.

Great progress has been made in providing safety appliances at various places, and during recent years much new work has been installed in connection with the deviations, duplications, and new railway lines. At many of the principal stations the points and signals are interlocked, and at the Central Station, Sydney, an electro-pneumatic system of signalling is in operation. During 1913, track block and automatic signalling—the first in Australia—was installed between Redfern Tunnel Signal-box and Sydenham Junction; this system is being extended as opportunity offers.

Particulars regarding the various systems employed for the safe working of the lines in 1915 and 1916 are shown below:—

	Single Line.	1915.		1916.	
		Mls.	Chs.	Mls.	Chs.
By electric tablet	...	354	38	290	9
electric train staff	...	1,078	28	1,170	36
train staff and ticket with line clear reports	...	1,581	36	1,505	75
train staff and ticket without line clear reports.	...	682	4	682	4
train staff and one engine only	...	6	14	6	14
		3,702	40	3,654	58
	Double Line.	1915.		1916.	
		Mls.	Chs.	Mls.	Chs.
By absolute block system	...	414	69	476	29
permissive block system	...	6	27	6	27
telephone	...	0	33	0	33
automatic signalling with track block working.	...	35	42	79	75
		457	11	563	4

The Westinghouse brake is used on all the rolling stock of the Government railways.

RAILWAY ACCIDENTS.

The persons meeting with accidents on railway lines may be grouped under three heads—passengers, employees, and trespassers; and the accidents themselves may be classified into those arising from causes beyond the control of the persons injured, and those due to misconduct or want of caution.

The accidents may be further subdivided into those connected with the movement of railway vehicles and those apart from such movement.

Adopting such classifications, the accidents during the quinquennial period terminated on 30th June, 1916, are shown below. The return is compiled in a similar way to that adopted by the Board of Trade in England, and all accidents are reported which occur in the working of the railways, or on railway premises, to persons other than servants of the Department, however slight the injuries may be. In the case of employees of the Department all accidents must be reported which cause the employee to be absent for at least one whole day from his ordinary work:—

Classification.	Accidents connected with the Movement of Railway Vehicles.					Accidents not connected with the Movement of Railway Vehicles.				
	1912.	1913.	1914.	1915.	1916.	1912.	1913.	1914.	1915.	1916.
Passengers—										
Causes beyond their own control—										
Killed ... ..	...	...	14	1	...	...	...	...	...	...
Injured	21	23	46	77	14	...	2	...	...	12
Their own misconduct, or want of caution—										
Killed	7	11	9	5	16	...	...	1	...	...
Injured	113	168	137	174	208	40	49	83	40	41
Servants of the Department—										
Causes beyond their own control—										
Killed ... ..	...	1	1	2	...	9	1	...	...	...
Injured	58	53	44	30	37	189	130	83	64	103
Their own misconduct, or want of caution—										
Killed	26	30	41	31	31	4	6	4	5	3
Injured	255	252	257	281	344	2,272	2,920	3,120	2,704	2,690
Trespassers and others—										
Killed	35	42	47	39	40	8	4	3	6	7
Injured	66	86	86	83	107	119	113	131	107	110
Total { Killed ...	68	84	112	78	87	21	11	8	11	10
 Injured ...	513	582	570	645	710	2,620	3,214	3,417	2,915	2,956

The rates per million passengers carried during the quinquennium were as follow:—

	Killed.	Injured.
Accidents connected with movement of railway vehicles—		
Causes beyond their own control	·04	·43
Their own misconduct or want of caution	·11	1·91
Accidents not connected with movement of railway vehicles—		
Causes beyond their own control ... ..	...	·03
Their own misconduct or want of caution	·00	·61
Total	·15	2·98

Compensation Paid—Railways.

The amount of compensation paid during the twelve months ended 30th June, 1916, in connection with accidents on railways, was £21,906, of which £10,802 was personal, £11,104 being paid in respect of goods.

First-Aid and Ambulance.

Appliances for rendering first-aid have been installed at the dépôts and important stations and are carried in the brake-vans of main line and through trains; first-aid equipment is provided also at Sydney and Newcastle and at several country stations. Ambulance and first-aid classes have been established at numerous stations and dépôts for the instruction of members of the Railway and Tramway staff. The total strength of the Railway and Tramway Ambulance Corps at 30th June, 1916, was 9,132 members.

Railway Accidents in other Countries.

As regards accidents of a serious character the railways of New South Wales compare favourably with the lines of most other countries. It is difficult to obtain a common basis of comparison; but the available figures are given in the following table, which shows the number of passengers killed and injured per million persons carried. The figures are calculated over a period of five years and brought down to the latest available dates:—

Country.	Accidents per million passengers carried.		Country.	Accidents per million passengers carried.	
	Killed.	Injured.		Killed.	Injured.
<i>New South Wales</i> ...	0·15	2·98	<i>Norway</i> ...	0·11	0·19
<i>Victoria</i> ...	0·07	2·45	<i>Netherlands</i> ...	0·10	0·59
<i>South Australia</i> ...	0·12	3·50	<i>Switzerland</i> ...	0·11	0·70
<i>Germany</i> ...	0·06	0·39	<i>Russia in Europe</i> ...	1·36	6·94
<i>Austria</i> ...	0·08	1·86	„ <i>Asia</i> ...	5·39	26·09
<i>Hungary</i> ...	0·22	1·10	<i>United Kingdom</i> ...	0·09	2·67
<i>Belgium</i> ...	0·09	2·93	<i>United States</i> ...	0·33	14·61
<i>Sweden</i> ...	0·18	0·29	<i>Canada</i> ...	0·74	10·13

The above comparison is by no means conclusive, as the question of the distance travelled by each passenger is an important element of the risk run, and is omitted from consideration. If this were made a factor, it would probably be found that the risk of each traveller by rail would show less variation in the different countries than appears to be the case from the figures quoted. In Asiatic Russia the average distance travelled by each passenger was 485 miles during one year of the quinquennium, and during the remaining years it was over 220 miles; in European Russia the average was about 68 miles. In Canada the average length of journey was about 70 miles, and in the United States 33 miles; in Switzerland, Germany, Belgium, Norway, Sweden, and Netherlands it varied from 12 to 18 miles. The average journey in New South Wales was about 15 miles, and in South Australia about 12 miles.

PRIVATE RAILWAY LINES.

In New South Wales the established policy has been to keep the railways under State management and control, and at the present time there are only 143½ miles of private lines in operation, with the exception of short lines to connect coal and other mines with the main railways, on a few of which provision has been made for the carriage of passengers and goods.

In 1874 Parliament granted permission to a company to construct a line from Deniliquin, in the centre of the Riverina district, to Moama, on the River Murray, where it meets the railway system of Victoria. The line, which was opened in the year 1876, is of 5 ft. 3 in. gauge and 45 miles in length; a considerable proportion of the wool and other produce of the Riverina reaches the Melbourne market by this route. During the year 1888 a line of 3 ft. 6 in. gauge, and 35 miles 54 chains in length, was laid down from Silverton and Broken Hill to the South Australian border. A short line connects the Government railway at Liverpool with the Warwick Farm Racecourse. The Seaham Coal Company's line connects the West Wallsend and Seaham Collieries with Cockle Creek; and the line of the Commonwealth Oil Corporation extends from Newnes Junction, on the Western line, to the Wolgan Valley. The following table shows the operations of all private railway lines open to the public for general traffic during the year 1915:—

Name of Private Railway.	Line.		Total Capital Expended.	Reserve Fund.	Debentures Outstanding.	Passengers Carried.	Goods Carried.	Live Stock Carried.	Train Miles Run.
	Length.	Gauge.							
Deniliquin and Moama.	45 0 5 3	m. ch ft. in.	£ 162,673	£ 14,010	£ ...	No. 12,013	tons. 24,576	No. 385,442	No. 39,824
Silverton ...	35 54 3 6		£ 473,163	£ 148,186	£ ...	No. 43,443	*713,225	92,789	108,972
Warwick Farm ...	0 66 4 8½		£ 5,700	...	£ ...	No. 20,979	...	437	145
Seaham Colliery...	6 0 4 8½		£ 16,000	...	£ ...	No. 16,745	9,440	27	7,643
East Greta ...	8 0 4 8½		£ 193,993	...	£ ...	No. 871,981	tons. 52,702		402,591
Hexham-Minmi ...	6 0 4 8½		£ 1,000,000	...	£ ...	No. 11,290	1,340		4,800
Commonwealth Oil Corporation.	33 0 4 8½		£ 194,500	...	£ 475,000	No. 820	4,601		13,665
†New Red Head...	9 0 4 8½		£ 90,000	...	£ ...	†	†		†

* Includes 223,896 tons local shunting.

† Year 1913.

; Not available.

§ Approximate.

The Deniliquin and Moama Company possesses 4 locomotives, 6 passenger carriages, and 63 goods carriages and vans. The Silverton Company has 20 locomotives, 665 goods vehicles, and 1 passenger carriage; and passenger carriages are hired also from the South Australian Government railways as required. On the Warwick Farm line Government rolling-stock is used. The Seaham Colliery has 2 locomotives, but otherwise Government rolling-stock is used, 4 passenger carriages and 2,310 goods vehicles being hired during 1915. On the East Greta railway there are 19 locomotives, 32 passenger carriages, and 33 goods carriages. The Hexham-Minmi Company has 1 locomotive, and 4 passenger carriages; and the Commonwealth Oil Corporation has 5 locomotives, 2 passenger carriages, 1 motor car, and 81 goods carriages and vans.

In addition to the private railway lines shown in the above table, there are several branches, connected principally with coal and other mines; a summary of them is given below:—

District.					Length. m. ch.		Gauge. ft. in.		
Connected with	Northern Line	...	...	...	95	54	4	8½
„	Western „	...	...	...	6	39	4	8½
„	South Coast „	}	3	40	3	6
						29	76	4	8½

RAILWAYS OF NEW SOUTH WALES AND OTHER COUNTRIES.

The position of all railways of New South Wales in relation to other important countries of the world is shown in the following table; but it is necessary to remember that there are vital differences which really invalidate any effective comparison, as, for instance, differences in population, and in the competition or assistance which railways encounter from river or sea carriage.

Country.	Length of Railways.	Per Mile of Line Open.		Country.	Length of Railways.	Per Mile of Line Open.	
		Pop- ulation.	Area.			Pop- ulation.	Area.
	miles.	No.	sq.miles.		miles.	No.	sq.miles.
<i>New South Wales</i>	4,362	426	71.1	Germany	39,532	1,691	4.3
Victoria ...	4,130	340	21.3	France ...	31,958	1,239	6.5
Queensland ...	5,480	125	122.4	Switzerland ...	3,176	1,190	5.0
South Australia ...	2,698	161	141.1	Austria ...	15,631	1,940	8.7
Western Australia	4,275	74	228.3	Hungary ...	13,596	1,547	9.2
Tasmania ...	726	272	36.1	Canada ...	35,582	227	104.8
New Zealand ...	2,960	372	35.4	United States of America.	251,984	392	11.8
United Kingdom	23,691	1,960	5.1	Argentina ...	21,909	397	52.0
Russia ...	46,586	3,604	179.5	Japan ...	5,607	9,450	26.3

UNIFICATION OF THE RAILWAY GAUGES OF AUSTRALIA.

It was originally intended that there should be only one gauge for all the railways of Australia, but, unfortunately for interstate communication, this intention was not carried into effect, and railway construction has proceeded without uniformity of gauge. In 1850, when the first railway was commenced, the Sydney Railroad and Tramway Company decided to adopt the 5 ft. 3 in. gauge, and an Act passed in 1852 provided that all the lines in New South Wales should be laid down to this standard. Three years later the Company altered its decision, the Act was repealed, and another passed substituting the 4 ft. 8½ in. gauge for the 5 ft. 3 in.

This change was made without consulting the other Australian colonies, and in Victoria the railway companies had already placed large orders for rolling-stock for the wider gauge. The result is that the railways of New

South Wales have been constructed to the 4 ft. 8½ in. gauge, and the Victorian to 5 ft. 3 in. In South Australia the 5 ft. 3 in. gauge was adopted at first, but on account of the lower cost of construction the more recent lines in that State, as well as all the lines in the Northern Territory, Queensland, and Western Australia, have been built to a gauge of 3 ft. 6 in.

The classification of the Government Railways in each State according to gauge as at 30th June, 1916, may be seen below:—

State.	Mileage with Gauge.					Total Miles.
	2 ft.	2 ft. 6 in.	3 ft. 6 in.	4 ft. 8½ in.	5 ft. 3 in.	
New South Wales	26	.....	40	4,153	.....	4,219*
Victoria ... ..	.....	122	.....	.....	3,978	4,100
Queensland	29	.....	4,938	.....	.....	4,967
South Australia ... ..	.....	.....	1,687	.....	977	2,664
Western Australia ... ..	.....	.....	3,332	.....	.....	3,332
Tasmania	24	.....	538	.....	.....	562
Northern Territory ... ..	.....	.....	147	.....	.....	147
Total Commonwealth	79	122	10,682	4,153	4,955	19,991

* Includes Burrinjuck line.

In consequence of the diversity of gauge interstate railway communication is seriously hampered; in a journey from Queensland to South Australia, breaks of gauge occur at Wallangarra, where the systems of Queensland and New South Wales meet, and at Albury, on the border of New South Wales and Victoria, while there is another change of gauge between Adelaide and Port Augusta or Oodnadatta, whence the lines will be extended across the continent of Australia.

The question of fixing the standard gauge has been the subject of many diverse professional opinions. The New South Wales gauge of 4 ft. 8½ in. has been recommended by the chief railway engineers of the Commonwealth and of the five States and by the Railway War Council, and has been adopted for the Port Augusta-Kalgoorlie railway.

In December, 1912, and April, 1913, a conference of the chief engineers of the Commonwealth and State Railways met to investigate the question of the selection of a uniform gauge between the capital cities of Australia. The representatives eliminated from selection all gauges wider than 5 ft. 3 in. and narrower than 4 ft. 8½ in., and finally resolved to recommend the adoption of the latter gauge as the standard for Australia. Their decision was influenced mainly by the consideration of cost; the cost of converting all the lines on the mainland of Australia would be £37,164,000 for a uniform gauge of 4 ft. 8½ in. as compared with £51,659,000 for the 5 ft. 3 in. gauge.

As it is apparent that a scheme to convert to a uniform gauge the lines between the capitals only would not be practicable owing to the difficulties

of working the branch services, the conference submitted an alternative scheme designed to meet immediate requirements. A standard gauge line to connect Brisbane with the New South Wales system at Kyogle or Murwillumbah, the conversion of the 5 ft. 3 in. lines in Victoria and South Australia, a new direct standard gauge line between Adelaide and Port Augusta, and a new line from Kalgoorlie to Fremantle. The cost of this scheme was estimated at £12,142,000.

As regards the method to be adopted for the conversion without interruption of the traffic the third rail system producing what is called the mixed gauge, has been effectively used in Great Britain.

Since 1914 the question of providing strategic railways for defence purposes has been considered by the Railway War Council, and at a conference of military advisers and interstate Railway Commissioners inspections have been made of various routes.

TRANSCONTINENTAL RAILWAYS.

It is the intention of the Federal Government to construct transcontinental railway lines to bring the States of the continent of Australia into direct communication. The construction of a line from Port Augusta in South Australia to Kalgoorlie in Western Australia is now in progress, the gauge of 4 ft. 8½ in. having been adopted. Up to October, 1916, rails had been laid for a distance of 890 miles. The total length will be 1,053 miles, which will make the distance by rail from Sydney to Fremantle (Western Australia) 2,763 miles, divided up as follows:—Sydney to Melbourne, 583 miles; Melbourne to Adelaide, 483; Adelaide to Port Augusta, 259; Port Augusta to Kalgoorlie, 1,053; Kalgoorlie to Fremantle, 385. This line is required to facilitate the transport of troops, &c., in time of war, and will considerably accelerate the transit of European mails. At the present time mail matter is forwarded to Adelaide from Sydney by rail, and thence sent by steamer to Fremantle, taking six days, whereas the through railway journey should occupy only four days. When the heavy ballasting is completed it should be practicable to make the journey between Port Augusta and Kalgoorlie in about 24 hours; in the meantime, it will take about 35 hours.

Under the provisions of the Northern Territory Acceptance Act the South Australian Government transferred to the Commonwealth on 1st January, 1911, the line from Port Augusta to Oodnadatta, 478 miles, as well as the Northern Territory railway, from Darwin to Pine Creek, 145½ miles. The former is controlled by the South Australian Railway Commissioner on behalf of the Federal Government. The Commonwealth has under consideration the construction of a line across the Continent to connect these systems; the section from Pine Creek to Katherine, 54½ miles, is in course of construction, and surveys have been made of other sections.

TRAMWAYS.

With the exception of 2½ miles privately owned, the tramways of New South Wales are the property of the State Government. The standard gauge of 4 ft. 8½ in. has been adopted for all lines. The electric system was introduced into Sydney at the close of 1899, and the steam tramways in the metropolitan district have been converted. Of the 220½ miles of line

open at 30th June, 1916, there were 151 miles under the electric system and 69 $\frac{3}{4}$ miles worked by steam.

Line.	Length of Line.		Length of Single Track.	
	mils.	ch.	mils.	ch.
Electric—				
City and Suburban	111	17	202	63
North Sydney	19	31	33	33
Ashfield to Mortlake and Cabarita	8	38	14	11
Rockdale to Brighton-le-Sands	1	20	1	20
Manly to The Spit and Manly to Narrabeen	10	58	14	47
	151	4	266	14
Steam—				
Arncliffe to Bexley	2	50	2	50
Kogarah to Sans Souci	5	45	6	79
Parramatta to Castle Hill	6	55	6	55
Sutherland to Cronulla	7	32	7	32
Newcastle City and Suburban	32	69	42	53
East to West Maitland	4	47	4	47
Broken Hill	10	4	11	35
	69	62	82	31
Total	220	66	348	45
Sidings, loops, and Cross-overs ... ..	.....		53	37

During the year ended 30th June, 1916, the length of line opened for traffic was 1 mile 12 chains; and 5 miles 31 chains were under construction at the end of the year.

Fares.

The average fare charged on the tramways for all lines is about 0.59d. per mile; for the Metropolitan area the average is 0.55d. The lines are divided into penny sections, with the exception of the second section in the City of Sydney, in which the fare is 1 $\frac{1}{2}$ d. The fares charged for adults on Sunday, Christmas Day, and Good Friday are slightly higher, being as follows:—

One section	2d.	Four sections	5d.
Two sections	3d.	Five sections	6d.
Three sections	4d.	Six sections	6d.

The average length of the sections is about 1 $\frac{1}{2}$ miles.

Rolling-stock.

The tramway rolling-stock, on 30th June, 1916, consisted of 22 steam motors, 80 steam cars, 1,391 motor cars and 11 trail cars for electric lines, and 104 service vehicles, making a total of 1,608.

Cost of Construction.

The capital cost of the State tramways to 30th June, 1916, amounted to £8,166,423, or £36,982 per mile open; the cost of construction was £4,031,598, or £18,257 per mile, and the expenditure on rolling-stock, workshops, machinery, &c., amounted to £4,134,825.

Working of Tramways.

The following statement shows the working of the various tramways in sections for the year ended 30th June, 1916. Only four sections returned a profit during the period; the total profit on all lines, after allowing for interest on capital, amounted to £86,292.

Line.	Cost of Construction and Equipment.	Passengers carried.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest on Capital.	Profit + Loss --
	£	No.	£	£	£	£	£
Electric—							
City and Suburban	6,332,434	242,686,357	1,656,585	1,301,531	355,054	234,761	+ 120,293
North Sydney	659,501	20,813,257	126,973	100,285	26,688	24,741	+ 1,947
Ashfield to Mortlake & Cabarita	200,816	4,881,266	24,125	24,341	— 216	7,401	— 7,617
Manly to The Spit and Manly to Narrabeen.	320,459	3,028,209	27,785	24,235	3,550	11,839	— 8,289
Rockdale to Brighton-le-Sands	13,491	639,224	3,239	2,073	1,161	508	+ 653
Steam—							
Arncliffe to Bexley	21,752	654,520	3,651	6,307	— 2,656	819	— 3,475
Kogarah to Sans Souci	27,814	965,569	8,161	9,512	— 1,351	977	— 2,328
Parramatta to Castle Hill	38,446	905,519	7,779	8,185	— 406	1,448	— 1,854
Sutherland to Cronulla	49,696	717,493	11,178	8,755	2,423	1,874	+ 549
Newcastle City and Suburban	374,789	14,113,016	103,443	94,479	8,964	13,531	— 4,567
East to West Maitland	38,941	743,429	5,004	5,540	— 536	1,468	— 2,004
Broken Hill	88,284	1,873,944	13,705	17,402	— 3,697	3,319	— 7,016
Total, All Lines..	8,166,423	292,021,774	1,991,028	1,602,050	388,978	302,686	+86,292

Revenue and Expenditure.

In the following table are given details of revenue and expenditure, and capital invested for all State tramways, since their inception in 1879. The net earnings of the tramways for the year ended 30th June, 1916, amounted to 4.76 per cent. on cost of construction and equipment, as compared with 3.78 per cent., the actual interest on the public debt, taking into considera-

tion the actual sum obtained by the State for its loans, many of which were floated below par:—

Year.	Total Length of Lines.	Capital Expended on Lines open for Traffic.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest Returned on Capital.
	Miles.	£	£	£	£	per cent.
1879	1½	22,061	4,416	2,278	2,138	9.69
1880	4½	60,218	18,980	13,444	5,536	9.19
1885	35	748,506	227,144	207,898	19,246	2.57
1890	39½	933,614	268,962	224,073	44,889	4.81
1895	61	1,428,518	282,316	230,993	51,323	3.59
1900	71½	1,924,720	400,724	341,127	68,597	3.56
1905	125½	3,637,922	813,509	685,682	127,827	3.51
1910	165½	4,668,797	1,185,568	983,587	201,981	4.33
1915	219½	7,970,293	1,986,060	1,611,286	374,774	4.70
1916	220½	8,166,423	1,991,623	1,602,650	388,978	4.76

During the year ended 30th June, 1916, the percentage of working expenses to the total receipts was 80.5 as compared with 81.1 in the previous year; the net earnings amounted to £388,978, which is equal to a net return per average mile open of £1,766, as compared with £1,730 per mile open in 1915.

Comparison of Tramway Traffic.

The following statement contains a comparison of the passenger traffic and the tram mileage in the State tramways since 1900. The length of line has increased from 71½ miles to 220½ miles; the number of passengers from 66,244,334 to 292,021,774; and the tram mileage from 4,355,024 miles to 26,451,442 miles. With the extension of the tramway system the earnings per tram mile decreased from 2s. 3d. in 1900 to 11½d. in 1904, but have since risen to 1s. 6d.; the working cost per tram mile dropped from 1s. 10d. in 1900 to 9d. in 1906, but increased steadily to 1s. 2½d. in 1916:—

Year ended 30th June.	Length of line open.	Passengers carried.	Tram mileage.	Earnings per tram mile.	Working cost per tram mile.
	miles.	No.	miles.	s. d.	s. d.
1900	71½	66,244,334	4,355,024	2 3	1 10
1905	125½	139,669,459	16,413,762	1 0	0 10
1910	165½	201,151,021	20,579,386	1 1½	0 11½
1915	219½	289,282,945	26,842,974	1 5½	1 2½
1916	220½	292,021,774	26,451,442	1 6	1 2½

The extension of the City and North Sydney tramways since 1905 may be seen in the following statement, also the enormous increase in the passenger

traffic. All lines which communicate directly with the city of Sydney are included in the category "City and Suburban"; the Ashfield, Kogarah, Arncliffe, and Rockdale lines, which act as feeders to the railways, and the Manly lines, have not been included:—

Year ended 30th June.	City and Suburban.			North Sydney.		
	Length of line.	Passengers carried.	Tram mileage.	Length of line.	Passengers carried.	Tram mileage.
	miles.	No.	miles.	miles.	No.	miles.
1905	73½	120,973,934	14,413,273	11½	9,128,575	1,074,743
1910	94½	173,897,034	17,743,868	16½	13,877,491	1,651,163
1915	110½	240,545,317	22,242,010	19½	20,743,680	2,375,916
1916	111½	242,636,337	21,937,610	19½	20,813,257	2,279,494

CARRIAGE OF GOODS BY TRAMWAYS.

Goods and other material may be carried on the Government tramways, except on the lines in the very busy sections of the streets of Sydney, viz., in George, Pitt, and Castlereagh streets between the Central Railway Station and the Circular Quay.

Although the tram lines are fully capable of carrying heavy goods, and the track is ballasted equal to the railways, up to the present time only passengers are carried, and such material as occasionally may be needed for tramway requirements.

TRAMWAY ACCIDENTS.

The accidents which occurred on tramways during the last five years are classified in the subjoined table, in a similar way to those relating to the railways:—

Classification.	Accidents connected with the movement of tramway vehicles.					Accidents not connected with the movement of tramway vehicles.				
	1912.	1913.	1914.	1915.	1916.	1912.	1913.	1914.	1915.	1916.
Passengers—										
Causes beyond their own control—										
Killed...	...	...	2	1	...	...	...	...	...	1
Injured	163	229	120	75	77	2	4	3	2	1
Their own misconduct, or want of caution—										
Killed...	11	9	11	7	7	...	...	...	...	1
Injured	382	406	487	312	346	9	16	16	19	8
Servants of the Department—										
Causes beyond their own control—										
Killed...	...	...	1	1	...	...	...	...	...	...
Injured	55	66	74	37	47	36	48	45	19	29
Their own misconduct, or want of caution—										
Killed...	1	1	...	3	1	...	1	1	...	...
Injured	202	199	212	161	152	496	608	549	411	306
Others—										
Killed...	16	28	16	21	23	1	...	...	...	...
Injured	336	373	368	267	294	5	8	8	2	4
Total { Killed...	28	38	29	33	32	1	1	1	...	1
{ Injured	1138	1273	1261	852	916	548	684	621	453	348

As the tramways usually traverse crowded streets, the number of accidents must be considered small.

The number of passengers carried on the tramways during the year ended 30th June, 1916, was 292,021,774, and the rate of fatal accidents to passengers was .03 per million. With three exceptions the fatal accidents in the last five years were ascribed entirely to misconduct or want of caution on the part of passengers.

Compensation Paid—Tramways.

The amount of compensation paid during the twelve months ended 30th June, 1916, in respect of accidents on the tramways was £17,558, as compared with £26,966 for the preceding year.

PRIVATE TRAMWAYS.

There is one tramway under private control within the State—a steam tramway, which passes through the town of Parramatta, commencing at the Park and continuing as far as the Newington Wharf at Duck River, a distance of 2 miles 66 chains, where it connects with the Parramatta River steamers conveying passengers and goods to and from Sydney. The line has been constructed to the standard gauge of 4 feet 8½ inches, and was opened in 1883.

RAILWAYS AND TRAMWAYS—EMPLOYMENT AND WAGES.

The account of wages paid, together with the staff employed on the Government railways and tramways in June, 1916, is shown in the following statement, in comparison with the previous year:—

Particulars.	Year ended 30th June, 1915.			Year ended 30th June, 1916.		
	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.
Persons employed—						
Salaried staff ...	3,649	561	4,210	4,148	617	4,765
Wages „ ...	33,096	8,644	41,740	34,634	9,189	43,823
Total number	36,745	9,205	45,950	38,782	9,806	48,588
Wages paid—	£	£	£	£	£	£
Maintenance Branch	2,013,518	181,336	2,194,854	2,064,204	168,078	2,232,282
Locomotive „	1,887,163	.....	1,887,163	2,124,866	.....	2,124,866
Electric „	.....	376,635	376,635	.....	378,768	378,768
Traffic „	815,966	655,125	1,471,091	876,644	670,523	1,547,167
Total	£ 4,716,647	1,213,096	5,929,743	5,065,714	1,217,369	6,283,083

The average number of men employed during the year ended 30th June, 1916, was 48,757, including an average of 3,745 employees serving with the

Australian Expeditionary Force. To 30th June, 1916, 613 salaried officers and 4,995 men on the wages staff of the Railways and Tramways, had joined the Expeditionary Force, all permanent employees being paid the difference in their pay in railway and tramway service and in the defence forces; under certain conditions similar terms are allowed to members of the temporary staff.

A scheme to provide superannuation allowances for the officers of the railway and tramway service was introduced in 1910; particulars will be shown in a later chapter of this Year Book.

The Railway and Tramway Institute.

The Railway Institute was established in 1891 for the purpose of encouraging mutual intercourse and improvement among the Railway and Tramway staff. The building, which was erected by the Government, occupies a site near the Central Railway Station, Sydney; it contains a fine library, the books being circulated amongst members throughout the State; accommodation is provided for classes for instructing members, particularly in subjects relating to railway and tramway methods. The trade classes of the Institute are affiliated with those of the Technical College. A monthly newspaper is published in connection with the Institute.

SHIPPING.

LEGISLATION AND SUPERVISION.

THE general principle of merchant shipping legislation, that a ship is subject to the law of the country in which it is registered, is modified by the fact that the various parts of the British Empire have power to regulate their own coasting trade. Further, as regards ships other than those registered locally, and engaged in coastal trade, the legislative powers of such country are restricted to territorial limits, and are therefore inoperative on the high seas. The laws of the Commonwealth are in force on all British ships whose first port of clearance and port of destination are in the Commonwealth.

Prior to the inauguration of the Commonwealth in 1901, the shipping of the State was controlled partly by Imperial enactment, the Merchant Shipping Act, 1894, and partly by enactments of the Legislature of New South Wales.

The Commonwealth has power to make laws with respect to trade and commerce, and to lighthouses, light-ships, beacons and buoys, and quarantine; also in relation to navigation and shipping, and enactments were made accordingly in regard to Sea Carriage of Goods, 1904, and Seamen's Compensation, 1909. Specific legislation in regard to navigation and shipping was introduced in the Commonwealth Parliament (Senate) in 1904, and the Act known as the Navigation Act, 1912, has received the Royal Assent, but will not become law until a date to be proclaimed.

The shipping of New South Wales is regulated generally by the Navigation Department, but within Port Jackson control of shipping, and matters incidental thereto, are vested in the Sydney Harbour Trust. The regulation of lighthouses was transferred to Commonwealth control on 1st July, 1915.

The Navigation Department.

Under the Navigation Act, 1901, the jurisdiction of the Superintendent of the Department of Navigation extends to the navigable waters lying within one nautical league of the coast, and to the inland navigable waters of New South Wales. It includes all ports and harbours except the port of Sydney, which is administered by the Sydney Harbour Trust. The Superintendent of Navigation has general superintendence of all matters within the Jurisdiction relating to the issue, suspension, and cancellation of certificates of competency and of service; the preservation of ports, harbours, havens, and navigable creeks and rivers; the licensing, appointment, and removal of pilots; the superintendence of lights, and harbour or river marks; the placing or removing of moorings; the granting and regulation of licenses for ballast lighters; the licensing and regulation of watermen, boatmen, and boats plying for hire, and the determination of fees and rates chargeable for such services; steam and other ferry boats; harbour and river steamers; motor boats; safety and prevention of accidents; unseaworthy ships; life-saving appliances, lights, fog-signals, and sailing rules; and the accommodation for seamen. The Department administers the Wharfage and Tonnage Rates Act, 1901, in all gazetted ports within New South Wales, except Port Jackson, and also the regulations under the Inflammable Liquid Act, 1915.

Sydney Harbour Trust.

The Sydney Harbour Trust was created by Act of Parliament in 1901. The complete supervision and control of Port Jackson and its shipping, including lighthouses (excepting Macquarie and Hornby lighthouses), beacons, wharves, &c., were vested in the Trust, which is administered by a Board of three Commissioners.

The revenue of the Trust for the year ended 30th June, 1916, was £489,722, and the expenditure £141,672.

OVERSEA AND INTERSTATE SHIPPING.

In the shipping records the total voyages of vessels are included, but account is not taken of ships of war, cable-laying vessels, and yachts, nor of vessels trading between ports in New South Wales; the tonnage quoted is net. Vessels are entered at the first port of call in New South Wales, and cleared at the port from which final departure is taken from the State.

The aggregate number and tonnage of interstate and oversea vessels arriving in and departing from all ports of New South Wales at intervals since 1860, with the average tonnage per vessel, are as follows :—

Year.	Entries.		Clearances.		Average Tonnage per Vessel.
	Vessels.	Tonnage.	Vessels.	Tonnage.	
1860	1,424	427,835	1,438	431,484	300
1870	1,858	689,820	2,066	771,942	373
1880	2,108	1,242,458	2,043	1,190,321	586
1890	2,326	2,340,470	2,317	2,294,911	998
1900	2,784	4,014,755	2,714	3,855,748	1,432
1910	2,937	6,290,119	3,035	6,471,855	2,137
1911	3,127	6,822,135	3,146	6,833,782	2,177
1912	3,354	7,490,046	3,346	7,453,005	2,230
1913	3,393	8,117,501	3,375	8,071,101	2,392
1914-15	3,000	7,051,503	3,059	7,219,914	2,355
1915-16	3,045	6,552,235	3,062	6,574,582	2,149

Between 1860 and 1916, the number of vessels engaged in the trade of the State has more than doubled, the entries increasing from 1,424 to 3,045. In the same period the tonnage of the vessels increased sixteen times.

The average tonnage has advanced steadily, reaching the highest point in 1913, the subsequent decrease being due to war conditions.

Concurrently with the advance in tonnage has been an improvement in the class of accommodation provided on both passenger and cargo steamers.

Summarising oversea and interstate trade, the following figures are obtained for entries and clearances for the different States and the Northern Territory of Australia during 1915-16, and show the relative pre-eminence of New South Wales :—

State.	Oversea and Interstate.			
	Entries.		Clearances.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ...	3,045	6,552,235	3,062	6,574,582
Victoria ...	2,392	4,935,129	2,385	4,902,245
Queensland ...	815	1,659,567	816	1,640,665
South Australia ...	894	2,565,724	890	2,561,443
Western Australia ...	650	2,366,855	655	2,384,122
Tasmania ...	951	1,057,393	947	1,048,514
Northern Territory ...	91	208,441	91	208,441

NATIONALITIES OF VESSELS.

The trade of the State of New South Wales is carried, to a very great extent, under the British flag, the deep-sea trade with the mother country and British Possessions being controlled by shipowners of the United Kingdom, and the interstate trade chiefly by local shipowners. From the table given below, distinguishing British and foreign shipping at intervals since 1860, it will be seen that the British tonnage, entered and cleared, in 1860 was 689,251, or 80·2 per cent. of the total of 859,319 tons; while in 1880 the proportion was as high as 92·9 per cent. In 1913, however, the British shipping had fallen to 81·4 per cent., the foreign tonnage being 18·6 per cent. The disturbance of trade, caused by war conditions, has affected this average, the figures for 1915-16 showing British shipping tonnage as rising to 88·2 per cent. and foreign tonnage falling proportionately to 11·8 per cent. :—

Year.	Tonnage Entered and Cleared.			Percentage.	
	British.	Foreign.	Total.	British.	Foreign.
1860	689,251	170,068	859,319	80·21	19·79
1870	1,333,410	128,352	1,461,762	91·22	8·78
1880	2,259,924	172,855	2,432,779	92·89	7·11
1890	4,030,472	604,909	4,635,381	86·95	13·05
1900	6,702,106	1,168,397	7,870,503	85·15	14·85
1910	10,723,040	2,038,934	12,761,974	84·02	15·98
1911	11,239,844	2,416,073	13,655,917	82·31	17·69
1912	11,983,698	2,959,353	14,943,051	80·20	19·80
1913	13,182,112	3,006,490	16,188,602	81·43	18·57
1914-15	12,712,330	1,559,087	14,271,417	89·07	10·93
1915-16	11,582,777	1,544,040	13,126,817	88·24	11·76

Of the tonnage included as British, a large proportion is owned or registered in Australia and New Zealand.

In 1901, of vessels trading with this State, those owned in the Australian Commonwealth represented 39·8 per cent. of the total; and in 1916, 41·9 per cent. of the total.

The present war has caused a material alteration in foreign tonnage, as may be gathered from the statement below, which shows the number and tonnage of shipping of the principal nationalities that entered and cleared the ports of New South Wales in the last two years as compared with 1913 :—

Nationality of Shipping.	Entries and Clearances.						Tonnage— Percentage of each Nationality.		
	1913.		1914-15.		1915-16.		1913.	1914-15.	1915-16.
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.			
British—									
Australian	3,231	5,711,398	3,250	5,827,097	3,398	5,503,406	35·28	40·83	41·92
New Zealand	771	1,359,138	712	1,265,033	428	512,826	8·40	8·86	3·91
United Kingdom ..	1,589	6,081,117	1,401	5,562,020	1,467	5,532,813	37·56	38·97	42·15
Other British	22	30,450	30	58,180	22	33,732	·19	41	·26
Total	5,613	13,182,112	5,403	12,712,330	5,315	11,582,777	81·43	89·07	88·24
Foreign —									
France	150	313,252	109	192,768	101	152,203	1·93	1·35	1·16
Germany	487	1,533,728	68	215,254	....	....	9·47	1·51	....
Norway	183	353,843	146	269,810	88	144,766	2·19	1·80	1·10
Sweden	23	57,613	20	50,874	24	56,792	·36	·36	·43
Netherlands	52	128,870	61	179,661	78	233,185	·80	1·26	1·78
Italy	29	47,770	17	29,206	4	5,662	·29	·21	·04
Japan	108	332,471	108	381,432	211	536,290	2·05	2·67	4·08
United States of America	76	148,853	84	163,172	236	310,570	·92	1·14	2·37
Other Nationalities	52	90,060	41	76,910	50	104,567	·56	·54	·80
Total	1,156	3,006,490	651	1,559,087	792	1,544,040	18·57	10·93	11·76
Grand Total ..	6,768	16,188,602	6,059	14,271,417	6,107	13,126,817	100·00	100·00	100·00

The most notable alterations in the foreign trade are the cessation of German shipping, which represented 9·5 per cent. in 1913, and the increases in the tonnage belonging to the United States and Japan; the percentage of foreign tonnage declined from 18·6 in 1913 to 11·8 in 1916.

DIRECTION OF SHIPPING TRADE.

Of the tonnage engaged in the outward trade of New South Wales, approximately half goes to other Australian States. The following table shows, for the specified years in comparative form, the tonnage entered from and cleared for the countries within the British Empire, and the principal foreign countries.

Although a vessel may have called at many ports on both the inward and outward voyages, the intermediate ports are not considered, only one country being regarded as that from which the vessel entered or to which it cleared.

Country.	Entered from and cleared for various Countries.					
	1900.		1910.		1915-16.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
British Empire—						
Australian States	3,082	3,861,154	3,413	6,275,901	3,818	6,942,082
United Kingdom	341	954,232	484	2,029,216	328	1,577,515
New Zealand	540	598,710	573	1,125,492	522	1,035,726
Egypt ... ..	...	.....	...	.....	143	763,097
India and Ceylon	57	138,993	59	178,571	78	254,431
Hong Kong	68	121,933	26	40,392	21	29,102
Canada	41	76,477	42	145,481	51	237,829
Union of South Africa—						
Cape Colony	152	240,755	16	30,127	36	76,082
Natal	40	60,701	19	46,434		
Fiji	65	64,125	66	101,754	66	151,364
Straits Settlements	19	31,212	62	151,091	47	115,770
Papua	14	11,448	20	13,657	9	5,712
Ocean Island ... ..	...	.....	30	63,260	33	70,416
Other British Possessions ...	46	46,653	38	39,997	49	39,885
Total, British Countries ...	4,465	6,206,393	4,848	10,241,373	5,206	11,299,011
Foreign Countries—						
France	44	100,793	51	148,137	18	66,377
Germany	70	234,817	155	510,510	...	.....
Belgium	13	28,129	12	34,126	...	.....
United States of America ...	157	303,187	183	403,343	342	679,450
China	19	41,161	...	.....	1	790
Japan	34	83,179	93	239,713	119	309,373
New Caledonia	118	143,867	59	107,341	60	79,568
Java	45	89,129	46	104,488	60	160,032
Philippine Islands	31	44,825	47	125,945	5	8,270
Hawaiian Islands	94	107,248	27	62,841	9	15,686
Peru	28	37,411	44	58,389	11	23,372
Chile	211	295,829	207	443,202	74	159,427
Other Foreign Countries ...	169	154,535	200	282,566	202	325,551
Total, Foreign Countries ...	1,033	1,664,110	1,124	2,520,601	901	1,827,806
Total	5,498	7,870,503	5,972	12,761,974	6,107	13,126,817

Of the total tonnage amounting to 13,126,817 in 1915-16, vessels from and to other Australian States represented 6,942,082, or 53 per cent. The United Kingdom furnished the next largest tonnage, with 1,577,515, equal to 12 per cent., followed by New Zealand with 1,035,726 tons, or

8 per cent., and Egypt 763,097 tons, or 6 per cent. The United States follows with 679,450 tons, being 5 per cent., then Japan with 309,373, India and Ceylon 254,431, and Canada 237,829. In 1913 Germany headed the foreign tonnages, but on the declaration of war in August, 1914, the shipping trade with this country ceased. Several circumstances have contributed to the fall in the South American trade, of which the restriction of the export of coal is the most notable.

The tables given above do not disclose the full extent of the shipping communication between New South Wales and other countries, since the records, relating only to terminal ports, entirely disregard the business of intermediate ports of call, which, being on the direct route of so many shipping lines, are visited regularly by vessels both on their outward and inward journeys.

STEAM AND SAILING VESSELS.

Records prior to the year 1876 do not distinguish steamers from sailing vessels, but the tendency to supersede sailing vessels by steamers has been apparent since that year, when the steam tonnage was 42·9 per cent., as compared with 57·1 per cent. of sailing vessels. The relative positions were transposed within the following ten years. The tonnage of sailing ships now represent only 3 per cent. of the total shipping. The progress of the tonnage of each class will be seen from the following table :—

Year.	Steam.		Sailing.		Ratio of Steam to Total Tonnage.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	tons.	tons.	tons.	tons.	per cent.	per cent.
1876	473,821	438,733	600,604	614,567	44·10	41·65
1880	803,935	746,437	438,523	443,884	64·71	62·71
1890	1,759,475	1,768,848	580,995	526,063	75·18	77·08
1900	3,206,657	3,140,449	808,098	715,299	79·87	81·45
1910	5,892,049	6,047,832	398,070	424,023	93·67	93·45
1911	6,427,442	6,424,865	394,693	408,917	94·71	94·02
1912	7,010,420	6,975,678	479,626	477,327	93·60	93·60
1913	7,800,389	7,744,422	317,112	326,679	96·09	95·95
1914-15	6,892,390	7,004,886	159,113	215,028	97·74	97·03
1915-16	6,346,795	6,360,428	205,440	214,154	96·86	96·74

VESSELS WITH CARGO, AND IN BALLAST.

The following statement evidences the relative importance of British shipping among the number of vessels, with cargo and in ballast, entered and cleared New South Wales ports during the year ending 30th June, 1916 :—

Nationality of Shipping.	Entries.				Clearances.			
	With Cargo.		In Ballast.		With Cargo.		In Ballast.	
	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.
British—								
Australian ...	1,147	37	505	5	1,621	41	38	4
Other ...	772	24	141	19	857	46	58	...
Foreign ...	233	107	30	25	240	74	25	58
Total ...	2,152	168	676	49	2,718	161	121	62

The majority of sailing vessels are foreign-owned, but the numbers are decreasing in proportion to the decline of sailing vessels among the world's shipping.

VESSELS IN BALLAST.

The advantage offered by the New South Wales trade to shipowners is illustrated by the large amount of tonnage entries in ballast, and the small number of clearances without cargo. Many vessels arriving in ballast come from ports of neighbouring States, where they have delivered a general cargo, and, having been unable to obtain full return freight, have cleared for Newcastle, in this State, to load coal. The largest amount of tonnage entered in ballast in any one year since 1876 was in 1907, when it reached 1,980,322 tons. In 1915-16 the tonnage entered in ballast amounted to 1,158,744 tons. The tonnage entered and cleared in ballast at intervals since 1876, is shown below :—

Year.	Steam (Ballast).		Sailing (Ballast).		Proportion of Tonnage in Ballast to Total Tonnage.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	tons.	tons.	tons.	tons.	per cent.	per cent.
1876	16,709	4,022	246,244	13,834	24.47	1.70
1880	73,006	3,015	144,757	13,204	17.53	1.36
1890	309,780	3,767	228,699	18,620	23.01	.98
1900	791,803	133,159	505,030	1,644	32.30	3.50
1910	997,188	201,614	269,241	8,635	20.13	3.25
1911	891,978	110,474	275,779	4,690	17.12	1.69
1912	1,013,651	175,565	351,363	5,566	18.22	2.43
1913	1,275,704	227,283	201,864	1,031	18.20	2.83
1914-15	1,203,440	330,191	83,718	23,139	18.25	4.89
1915-16	1,098,683	285,313	60,061	39,944	17.68	4.95

SHIPPING AT EACH PORT.

The following statement shows in comparative form the number and tonnage of vessels, oversea and interstate, entered and cleared from the various ports of the State since 1906 :—

Year.	Sydney.		Newcastle.		Kembla.		Twofold Bay (Eden.)		Other Ports.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
ENTRIES.										
1906	1,919	3,751,458	815	1,404,844	68	85,324	35	33,276	56	8,817
1907	2,163	4,273,995	909	1,657,234	76	92,320	32	31,644	58	15,760
1908	2,128	4,409,021	908	1,746,070	39	58,910	50	54,908	71	29,875
1909	2,062	4,507,187	620	1,182,031	42	72,994	71	86,468	66	21,354
1910	2,021	4,791,029	694	1,303,133	64	87,831	69	78,340	89	29,786
1911	2,181	5,246,351	701	1,357,132	64	102,866	55	63,145	126	52,641
1912	2,333	5,732,055	806	1,570,581	65	85,148	49	58,798	101	43,464
1913	2,275	6,174,321	906	1,771,032	67	87,488	57	63,139	88	21,521
1914*	1,163	3,262,507	527	1,045,127	29	36,273	27	31,743	48	17,552
1914-15	2,032	5,399,836	765	1,487,487	50	72,990	65	64,390	88	26,800
1915-16	2,051	4,990,476	820	1,390,980	60	50,923	67	59,151	47	20,705
CLEARANCES.										
1906	1,516	3,277,907	1,115	1,762,472	140	185,793	38	37,486	74	11,373
1907	1,718	3,717,792	1,221	2,044,706	155	197,832	32	31,957	79	16,995
1908	1,592	3,642,793	1,372	2,408,946	106	154,111	49	51,235	100	46,040
1909	1,559	3,795,231	979	1,676,759	93	123,761	49	61,417	87	32,258
1910	1,676	4,299,857	1,082	1,915,312	115	146,656	54	64,619	108	45,411
1911	1,691	4,459,030	1,151	2,106,013	104	141,332	51	61,380	149	66,027
1912	1,787	4,822,999	1,293	2,395,674	107	124,531	48	58,509	111	51,402
1913	1,716	5,220,913	1,388	2,617,578	97	122,554	55	66,829	119	43,227
1914*	928	2,840,957	691	1,340,967	58	74,819	26	30,485	62	31,408
1914-15	1,586	4,764,466	1,199	2,219,703	105	137,234	52	61,768	117	36,743
1915-16	1,537	4,291,045	1,225	2,029,000	106	155,824	65	62,806	79	35,907

* Six months ended 30th June.

The entries registered to the port of Sydney exceed the clearances, and the clearances at Newcastle exceed the entries, because vessels which leave Sydney for Newcastle for the purpose of shipping coal are reckoned as departures from the latter port and not from Sydney.

Of "Other Ports," grouped together in the above table, the more important are Bellambi and Richmond River; following are the figures for each during the year 1915-16 :—

Port.	Entries.		Clearances.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
Tweed River	9	1,044	7	812
Richmond River	18	4,004	12	2,020
Clarence River... ..	2	208	9	2,065
Nambucca River	1	116	8	1,197
Port Stephens ... ..	...	.....	18	6,001
Bellambi	17	15,333	25	23,212
	47	20,705	79	35,907

Particulars of shipping—oversea, interstate and coastwise which entered at each port of New South Wales are contained in the following statement for the year ended 30th June, 1916 :—

Port.	Vessels.	Tonnage.	Crews.	Port.	Vessels.	Tonnage.	Crews.
Bateman's Bay...	123	12,568	1,643	Moruya	91	14,118	1,391
Bellfanger River...	185	25,788	2,440	Nambucca River	169	20,322	1,773
Byron Bay	156	84,595	5,615	Narooma	93	10,134	1,183
Caunden Haven...	94	13,669	1,329	Port Hunter (Newcastle)...	5,459	3,952,640	28,398*
Cape Hawke	165	18,007	1,879	Port Jackson (Sydney) ...	9,285	7,535,277	138,212*
Clarence River	215	80,240	6,175	Port Kembla (Wollongong)	564	139,061	8,097
Coff's Harbour	389	122,297	8,761	Port Macquarie	166	28,753	2,470
Eden	240	156,810	7,438	Port Stephens	396	48,786	3,560
Kiama	394	57,511	5,144	Richmond River	300	34,039	6,698
Lake Macquarie ...	159	10,669	159	Tweed River	124	16,880	1,593
Macleay River	182	45,386	3,631	Woolgoolga	115	31,182	2,355
Manning River	175	29,756	1,363				

* Exclusive of Coastwise.

Sydney is one of the chief ports of the world, as appears from a comparison of its oversea and interstate shipping entries (entirely exclusive of coastal trade) with the returns of other ports. The figures quoted in the following table relate to the most recent years available. The entries at ports of the

United Kingdom do not include ships used by the Government in connection with the war:—

Port.	Tonnage Entered excl. Coastwise.	Port.	Tonnage. Entered excl. Coastwise.
<i>Sydney</i>	4,990,476	<i>Hong Kong</i>	11,483,663
<i>Newcastle</i>	1,390,980	<i>Cape Town</i>	2,542,170
<i>Melbourne</i>	4,837,518	<i>Durban</i>	2,692,935
<i>Brisbane</i>	1,519,752	<i>Montreal</i>	2,000,000
<i>Port Adelaide</i>	2,131,372	<i>Halifax</i>	2,034,531
<i>Fremantle</i>	1,824,603	<i>Victoria (B.C.)</i>	2,011,000
<i>Hobart</i>	621,217	<i>Hamburg</i>	14,185,000
<i>Auckland</i>	767,325	<i>Petrograd</i>	2,441,003
<i>London</i>	11,137,300	<i>Lisbon</i>	10,389,000
<i>Liverpool (including Birkenhead)</i>	9,762,872	<i>Funchal</i>	7,425,518
<i>Cardiff</i>	5,601,821	<i>Barcelona</i>	2,641,000
<i>Newcastle and North and South Shields.</i>	4,451,077	<i>Marseilles</i>	7,986,609
<i>Hull</i>	3,014,757	<i>Havre</i>	3,631,849
<i>Plymouth</i>	2,090,419	<i>Genoa</i>	5,336,000
<i>Glasgow</i>	2,755,687	<i>Naples</i>	5,120,000
<i>Dublin</i>	329,993	<i>Trieste</i>	3,466,000
<i>Belfast</i>	407,480	<i>Antwerp</i>	13,686,297
<i>Calcutta</i>	1,947,625	<i>Rotterdam</i>	12,307,358
<i>Bombay</i>	2,174,104	<i>Copenhagen</i>	3,440,901
<i>Colombo</i>	7,713,987	<i>New York</i>	12,579,000
<i>Gibraltar</i>	6,315,567	<i>New Orleans</i>	3,064,000
<i>Malta—Valetta</i>	5,546,093	<i>Shanghai</i>	4,471,447
<i>Aden</i>	3,925,044	<i>Buenos Aires</i>	7,962,000
<i>Singapore</i>	8,636,467	<i>Monte Video</i>	8,598,326
<i>Penang</i>	4,419,092	<i>Rio de Janeiro</i>	6,420,000
		<i>Kobe</i>	6,447,000

The total shipping tonnage—oversea, interstate, and coastwise—entering Sydney Harbour in 1916 were 9,285 vessels, having a net registered tonnage of 7,535,277, and the value of oversea, interstate, and State imports was £54,960,097.

Appended are the latest figures, including coastwise, for the principal ports of Australasia and the United Kingdom:—

Port.	Tonnage. Entered incl. Coastwise.	Port.	Tonnage. † Entered incl. Coastwise.
<i>Australia—</i>		<i>England—</i>	
<i>Sydney</i>	7,535,277	<i>London</i>	15,667,515
<i>Melbourne</i>	5,479,867	<i>Liverpool (including Birkenhead)</i>	12,764,406
<i>Newcastle</i>	3,952,640	<i>Cardiff</i>	9,035,829
<i>Port Adelaide</i>	2,131,372*	<i>Southampton</i>	12,502,523
<i>Brisbane</i>	2,113,247	<i>Hull</i>	3,739,443
<i>Fremantle</i>	1,929,425	<i>Plymouth</i>	2,569,903
<i>Townsville</i>	1,200,815	<i>Scotland—</i>	
<i>Albany</i>	1,146,247	<i>Glasgow</i>	5,213,237
<i>Hobart</i>	647,933	<i>Leith</i>	1,671,227
<i>New Zealand—</i>		<i>Ireland—</i>	
<i>Wellington</i>	3,183,192	<i>Belfast</i>	3,058,286
<i>Lyttelton</i>	1,954,500	<i>Dublin</i>	3,104,679
<i>Auckland</i>	1,746,514		
<i>Dunedin</i>	829,693		

* Exclusive of Coastwise Shipping—not available. † Exclusive of tonnage used for war service.

STEAMSHIP SUBSIDIES.

At the Imperial Conference held in London in 1911, various resolutions related to Merchant Shipping, and to the advisableness of supporting efforts in favour of British manufactured goods and British shipping in the interests of the United Kingdom and of the British Dominions beyond the seas. The majority of steamship lines trading to New South Wales have the benefit of mail contracts with their Governments, but in addition some of the foreign lines are assisted by subventions and contributions from national exchequers.

Of the British lines the Peninsular and Oriental Steam Navigation Company is in receipt of a subsidy from the Imperial Government for the conveyance of mails to East India, China, and Australia. The Commonwealth Government has made a contract with the Orient Steam Navigation Company, Limited, for ten years from 1st February, 1910, by which the Commonwealth has agreed to pay a subsidy of £170,000 per annum for a fortnightly service between Australia and the United Kingdom, provided that each mailship is at least 11,000 tons gross registered tonnage, and is capable of steaming at least 17 knots per hour. In terms of the contract space for certain cargo is provided; and each steamer is fitted with wireless telegraphy installation; the Australian flag is flown; and only white labour is employed on the vessels. The rates of freight payable on perishable produce are stipulated in the contract.

An annual subsidy is given to Burns, Philp & Co., by the New South Wales Government, for the maintenance of a monthly service with Java ports and Singapore, and by the Commonwealth for the Pacific Islands service; the Union Steamship Company is subsidised by the New Zealand Government for the carriage of mails from Australia, and the Eastern and Australian Steamship Company for granting preferential cargo space and freight rates, and making Shanghai a regular port of call each month for their steamers.

ROUTES.

Practically the whole Coastal trade centralises in Sydney, whence vessels trade to all the coastal rivers and ports of the State, and as to Interstate trade the greater part is direct.

Oversea the New South Wales trade during 1915-16 included direct shipping to the following places within the British Empire :—

United Kingdom.	Mauritius.
Canada.	New Zealand.
Egypt.	Norfolk Island.
Filice Islands.	Ocean Island.
Fiji.	Papua.
Gibraltar.	Solomon Islands.
Gilbert Islands.	South African Union.
India.	Straits Settlements.

There is also considerable indirect shipping to nearly all these countries.

In the New South Wales shipping trade the greater part of the business is conducted by regular liners; those trading with ports outside Australia are generally owned and controlled by companies registered outside the Commonwealth, but interstate and coastal companies are for the most part Australian-owned. In addition to the regular lines a considerable amount of cargo is carried in tramp steamers, and a smaller proportion in sailing vessels.

RATES OF FREIGHTS.

Distance from foreign trading centres renders freight a large item in the cost of placing the products of the State on overseas markets. Since the commencement of the war there has been a continuous rise in the rates on account of the restricted tonnage, higher insurance, and increased running costs. The following statement gives the rates per steamer from Sydney to London during the four years 1912-16, and shows that the increases have affected all the principal articles of export :—

Article.	Freight rate.			
	1912-13.	1913-14.	1914-15.	1915-16.
Wool (greasy) ... lb	$\frac{11}{8}$ to $\frac{3}{4}$ d	$\frac{3}{4}$ d.	$\frac{3}{4}$ d. to $1\frac{1}{8}$ d.	$1\frac{1}{8}$ d. to $1\frac{3}{4}$ d.
Wheat ... ton	10/- to 35/-	25/- to 37/6	.....	95/-
Frozen meat ... lb.	$\frac{9}{16}$ d. to $\frac{1}{4}$ d.	$\frac{1}{8}$ d. to $\frac{1}{4}$ d.	$\frac{1}{8}$ d. to $\frac{3}{4}$ d.	$\frac{3}{4}$ d. to $1\frac{1}{4}$ d.
Preserved meat per ton—40 cub. ft.	30/-	30/-	30/- to 55/-	55/- to 87/-
Rabbits ... "	50/-	55/-	55/- to 65/-	65/- to 100/-
Butter ... " ... 56 lb.	2/- to 2/6	2/- to 2/6	2/- to 2/9	2/9 to 4/-
Tallow... ... ton	42/6	47/6	47/6 to 65/-	65/- to 100/-
Leather ... "	60/-	80/-	80/- to 95/-	95/- to 190/-
Hides ... lb.	40/- to 52/6	50/- to 60/-	55/- to 80/-	80/- to $1\frac{1}{4}$ d. lb.
Timber ... 100 sup. ft.	6/-	6/9	6/9 to 8/6	8/6 to 15/-
Copra ... ton	40/-	42/6	42/6 to 80/-	52/6* to 132/-
Measurement goods ... 40 cub. ft.	35/-	40/- to 45/-	40/- to 55/-	55/- to 87/-

* Plus 20 per cent.

To European ports the freights for products such as wool (greasy) were practically the same as to London.

Freights for wool to the East Coast of the United States of America and to Japan were as under :—

Route.	Freight rate.			
	1912-13.	1913-14.	1914-15.	1915-16.
Wool (Greasy)—	d.	d.	d.	d.
To United States of America—				
Via London or Liverpool..	$\frac{3}{4}$ to $1\frac{1}{8}$	$\frac{3}{4}$ to $\frac{7}{8}$	$\frac{3}{4}$ to $1\frac{1}{8}$	.....
" San Francisco to	$\frac{3}{4}$	$\frac{3}{4}$ to $\frac{7}{8}$	.....	.....
Boston and New				
York.				
To Boston, direct ...	$\frac{3}{4}$ to $1\frac{1}{8}$	$\frac{3}{4}$ to $\frac{7}{8}$	$\frac{3}{4}$ to $1\frac{1}{8}$	1 to $1\frac{7}{8}$
To Japan* ...	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Wool (Scoured)—				
To Japan* ...	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$

* Plus 5 per cent primage.

RIVER TRAFFIC.

The extent of the waterways of New South Wales has been shown in a previous issue of this Year Book. Relatively to other countries New South Wales has few inland waterways, but is dependent upon railways and ocean shipping as the principal agencies of transportation. On the coastal rivers, there is some traffic apart from the vessels trading between the river ports and Sydney, but the extent of this traffic is not recorded.

On the inland rivers there is considerable traffic after a season of good rainfalls. The Murray River is navigable for some 150 miles above Albury, or 1,590 miles from its mouth. Its tributaries, the Kyalite or Edwards River and

the Wakool River, are navigable for some 400 miles, as far as Deniliquin; the Murrumbidgee and the Lachlan Rivers combined provide some 900 miles of navigable waterway; and the Darling is navigable in time of freshets as far as Walgett, 1,758 miles from its confluence with the Murray. Altogether, the Murray River system provides some 4,200 miles of waterway more or less navigable. The volume of traffic on these rivers is not recorded.

FERRY SERVICES.

Rivers.

Linking up the highways in every direction are ferry services provided free by the State. At the end of 1916, there were 112 of these ferries, of which 21 were classed as national works, and 91 were controlled by municipalities and shires. These services are not classified as shipping, being merely a necessary connection between roadways broken by rivers.

Sydney Harbour Ferries.

In Sydney Harbour extensive ferry services are provided by various private companies, which, unlike the river ferries noted above, are not considered in the light of necessary links in the system of road communication, and the companies, therefore, are permitted to charge fares for these services. The total estimated number of passengers carried on the Sydney Harbour ferries during the year ended 30th June, 1916, was 34,785,000.

CERTIFICATES AND LICENSES.

Department of Navigation.

During the year ending 30th June, 1916, the Department of Navigation issued 607 certificates as under:—

Master—Extra	6	Engineer —1st	18
Foreign-going	18	—2nd	28
Coast Trade	7	—3rd	55
Harbours and Rivers ..	72	Marine Surveyor	1
Mate—Foreign-going —1st ...	23	Pilotage	40
—2nd	31	Compass Adjuster	3
Coast Trade —1st	5	Motor Boat Coxswains ...	149
		„ Drivers	151

The certificates issued to trading vessels during the year ending 30th June, 1916, numbered 667, distributed among coastal ports as follows:—

Port.	Vessels.	Tonnage.	Passenger capacity.	Port.	Vessels.	Tonnage.	Passenger capacity.
Sea-going Steamers				Harbour and River Steamers (<i>contd.</i>)			
Sydney	174	310,785	12,714	Richmond River	8	605	1,189
				Tweed River	3	105	770
				Total	159	17,364	50,172
Harbour and River Steamers—				Motor Boats	302	...	9,632
Sydney	113	14,812	42,485	Sailing Vessels—			
Newcastle	11	634	2,113	Sydney	32	5,132	...
Clarence River	12	559	1,862				
Hawkesbury R....	1	117	196	SUMMARY.			
Lake Macquarie	4	172	819	Steamers	333	328,149	62,886
Macleay River ...	2	130	363	Motor Boats	302	...	9,632
Manning River ...	2	56	76	Sailing Vessels ...	32	5,132	...
Port Macquarie...	1	33	33	Total	667	333,281	72,518
Port Stephens ...	2	141	266				

Certificates are issued to all trading vessels, passenger or cargo, and are renewable at maximum intervals of twelve months. Watermen licensed by the Department of Navigation for 1915-16 numbered 84; viz., 23 at Newcastle; 15 at Clarence River; 9 at Hawkesbury River; 8 at George's River; 12 at Tweed River; 6 at Port Stephens; 3 each at Botany Bay and Richmond River; 2 at Lake Macquarie; and 1 each at Bermagui, Merimbula, and Port Hacking.

Sydney Harbour Trust.

On the 30th June, 1916, there were 25 watermen licensed by the Sydney Harbour Trust to ply on Port Jackson, while the vessels and moorings licensed by the Trust included the following:—

License.	Vessels.	Tonnage.	License.	Vessels.	Tonnage.
Lighters	470*	22,739	Water Boats	14	334
Ferry Steamers	72	8,436	Hulks	20	11,780
Tugs	53	1,391	Punts	14	188
Launches—Steam	12	141	Moorings	954	.....
Oil	61	.....		

SAFETY EQUIPMENT FOR VESSELS.

Regulations for safety under the Navigation Act make the following stipulations as to equipment to be carried:—

Sea-going Vessels.

Sufficient boat and raft accommodation and life-jackets for passengers and crew up to the numbers for which the vessel is certificated.

Life-buoys in proportion to boats carried, the minimum number being ten.

Blue lights (12), deck flare lights (2), rocket distress signals (24), rockets (12).

Harbour and River Steamers.

Sufficient boats, buoyant apparatus, flotation seats, and rafts, also life-jackets.

At least four life-buoys.

Approved signals of distress.

Regulations under the Navigation Act compel a lifejacket to be provided for each passenger, even on ferry boats.

WRECKS AND DISASTERS.

Wrecks and shipping casualties occurring to British merchant shipping on or near the coast of New South Wales are subjects of investigation by Courts of Marine Inquiry, of which some account is given in the chapter of

this Year Book relating to law courts. The following statement shows such wrecks and casualties reported since 1906 :—

Year.	British Vessels.				Total Tonnage.	Value of Vessels and Cargoes.	Crews and Passengers.	Lives Lost.
	Steam.	Motor.	Sailing.	Total.				
1906	4	...	...	4	89	£ 4,063	22	3
1907	4	...	1	5	716	17,945	55	...
1908	9	...	3	12	5,898	139,082	209	10
1909	4	...	...	4	520	18,750	60	1
1910	6	...	...	6	3,291	111,765	191	2
1911	7	...	2	9	2,546	50,600	112	41
*1912	8	...	2	10	1,093	38,066	142	36
1913	3	...	4	7	372	†10,834	40	1
†1914	5	1	3	9	687	16,677	58	7
1914-15	3	1	6	10	1,896	28,820	117	13
1915-16	5	6	4	15	3,466	12,510	81	4

* Figures for this year include one steam vessel of 41 tons, trading on the Murray River.

† Complete information not available.

‡ Half year ended 30th June.

The majority of the vessels reported are small coasters under 200 tons. The figures given above do not include vessels which left the ports of the State and have apparently been lost, as they were not reported subsequently. As regards foreign shipping, inquiries as to vessels lost are made by foreign consuls. Following is the record from 1906 to 1911; since the latter date no consular inquiries concerning wrecks have been held :—

Year.	Foreign Vessels.			Total Tonnage.	Crews and Passengers.	Lives Lost.
	Steam.	Sailing.	Total.			
1906	1	2	3	6,367	62	...
1907	1	2	3	2,293	47	...
1908	1	1	2	3,605	40	7
1909	...	1	1	1,364	22	...
1910	...	...	...	...	...	17
1911	...	1	1	1,543	20	...

Particulars as to value of vessels and cargo lost are not obtainable for each year.

Relief.

Two lifeboat stations are maintained on the coast, one at the Sydney Heads, and the other at Newcastle; and the whaleboats at the pilot stations are fitted for rescue service. The steam tugs subsidised for the towing of ships in and out of port also are available for the purpose of rendering assistance to vessels in distress; and life-saving appliances are kept at certain places along the coast. A considerable number of vessels trading in Australian waters are fitted with wireless telegraphy apparatus, by which aid may be summoned by vessels in distress.

The Royal Shipwreck Relief and Humane Society of New South Wales is maintained by public subscriptions, unsubsidised by the State, to afford relief in cases of distress to dependents of New South Wales seamen who have lost their lives or sustained injury in the discharge of their duties, to relieve crews of vessels and necessitous passengers wrecked in New South Wales waters, and to encourage acts of bravery by granting awards for meritorious deeds in saving human life. The relief granted on account of maritime disasters during the year ended 30th June, 1916, amounted to £283, in addition to £103 expended on account of rewards for merit, medals and certificates. The revenue of the Society for the year included £1,258, derived from public subscriptions and legacies.

Under the auspices of the religious denominations, several missions are interested in the welfare of seamen, such as the Sydney Mission to Seamen, the Catholic Mission, and the Central Methodist Mission, each of which maintains an institute in Sydney for the use of seafaring men while in the port.

PILOT AND ROCKET STATIONS.

Pilotage on the coast of New South Wales is a State service, the pilots being salaried officers appointed by the Government. Their services must be engaged for all vessels not specifically exempted, and certificates of exemption from pilotage for the various ports of the State are granted, after examination, only to British subjects, and are usable only in respect of British ships registered in Australia or in New Zealand, and engaged in trade in Australasia and the South Sea Islands, or in whaling.

The following statement shows the pilot stations along the coast from north to south, the pilot staff at 30th June, 1916, and the number of vessels piloted in and out of port during the years 1912-16. All the stations except Camden Haven, Lake Macquarie, and Moruya River, are also rocket stations; Port Jackson and Macleay River have two stations each, Port Hunter four, and each of the other ports one:—

Port and Pilot Station.	Pilots.	Crew.	Vessels Piloted In and Out.				
			1912.	1913.	1914.*	1914-15.	1915-16.
Tweed River	1	2	9	8	8	8	2
Richmond River—Ballina	1	4	...	8	1	10	11
Clarence River—Yamba	1	5	22	5	6	14	5
Bellinger River	1	2	18	5	2	6	2
Nambucca River	1	2	20	9	6	5	...
Macleay River	1	4	13	8	1	8	...
Port Macquarie	1	3	16	8	6	...	7
Camden Haven	1	2	...	19	...	4	...
Manning River—Harrington	1	4	26	16	6	8	3
Forster—Cape Hawke	1	2	15	16	1	1	4
Port Hunter—Newcastle	10	23	1,231	1,194	785	1,025	887
Port Jackson—Sydney	10	23	1,939	2,012	1,080	1,597	1,711
Port Kembla—Wollongong	1	2	...	19	4	10	12
Shoalhaven River—Crookhaven	1	3	21	10	6	...	...
Moruya ... ..	...	1	8	7	...	...	...
Twofold Bay—Eden	1	3	26	19	...	...	10

* Six months ended 30th June, 1914.

In addition to those shown above, there was a pilot at Kiama Harbour, and a boatman at Lake Macquarie and at Narooma.

The pilot vessel at Port Jackson is the Government steamer "Captain Cook," a one-deck vessel 156 ft. x 25 ft. x 13 ft., having a gross tonnage of

396, under-deck 376, net 172, and nominal horse-power 86. At Port Hunter the pilot vessel is the Government steamer "Ajax," an awning-deck vessel 129 ft. x 21 ft. x 12 ft. to main deck, and 19 ft. to awning deck, having a gross tonnage 344, net 189, and nominal horse-power 72. The Government tug "Alexandra" is employed for pilot service at Clarence River.

At each of the stations named below the Department of Navigation subsidises a tug for the use of pilots. The masters must be in readiness to take all vessels out of port, and must render assistance promptly in case of any vessels in danger; they are required also to convey pilots to vessels signalling for their services. The maximum towing rate is fixed at 5d. per registered ton, with a minimum fee of £1 10s.

The following statement shows the vessels towed in and out of each port and the amount of the subsidy during the last two years :—

	Tonnage of Tug.	Annual Subsidy.	Number of Vessels Towed.			
			1914-15.		1915-16.	
			In.	Out.	In.	Out.
Tweed and Brunswick Rivers ...	40	£ 849	80	89	53	52
Richmond River ...	59	1,560	...	9	1	2
Clarence River ...	56	*	2	1	4	4
Bellenger River ...	42	912	103	154	111	161
Nambucca and Macleay Rivers..	18	1,200	93	137	36	65
Port Macquarie ...	37	960	13	18	6	15
Camden Haven ...	57	960	10	61	76	76
Manning River ...	42	900	48	60	131	137
Cape Hawke ...	8	1,020	14	57	35	118
Total ...	359	8,361	363	586	453	630

* The vessel is owned by the Government.

Harbour Removals.

In addition to piloting vessels in and out of ports, pilots are required to effect removals of vessels, and during the year 1915-16 removed 931 vessels of a tonnage of 3,342,189 in Port Jackson (Sydney) and 561 vessels of a tonnage of 1,185,706 in Port Hunter (Newcastle).

CHARTS AND COASTAL SURVEYS.

The British Admiralty employ surveying ships on the Australian Coast, and during recent years they have been engaged principally on the northern and north-western portions of the continent.

The importance of a properly equipped and organised Hydrographic Department has not yet been fully realised by the Australian States, and with the exception of the work done on the New South Wales coast, comparatively little is known of the set of the ocean currents, with their seasonal or other variations, the meteorological influence on tidal flow, or the changes in temperature, density, velocity, or direction of the many currents on the Australian littoral. These currents are subject to change at various seasons of the year, as well as to secular changes, and a knowledge of them is of prime importance in connection with the mercantile marine.

Measured distances have been marked on the coast for the use of high-speed vessels, when running their speed trials. Two sets of obelisks, 1 nautical mile apart, are set up at Maroubra Bay, and another set near Cape Solander, Botany Bay, 4 nautical miles to the southward. By keeping a due magnetic north course, and noting the times of transit for each set of obelisks, distances of 5, 4, or 1 miles may be accurately timed, and by timing

and running the same distances, steering due magnetic south, the effect of current and wind may be eliminated. The obelisks are conspicuous, easily picked up, and the transits well marked, at distances of from 1 to 3 miles off shore.

COASTAL AND HARBOUR LIGHTS.

Lighthouses and Signal Stations.

The coast of New South Wales, which is about 700 miles in length, has been well provided with lighthouses and signal stations, the number of lighthouses at 30th June, 1916, being 28, averaging one light to 25 miles of coast line :—

Location of Lighthouse.	South Latitude.	Description of Light.	Colour of Light.	Distance visible (See note).
	° /			Nautical miles.
M. Green Cape	37 16	Revolving	White	19
Two-fold Bay (Eden) (Lookout Point).	37 4	Fixed	Red	7
M. Montague Island—Summit.	36 15	Fixed and Flashing ...	White	20
Ulladulla (Warden Head)	35 22	Fixed	„	12
M. Jervis Bay (Point Perpendicular).	35 6	Group Flashing	„	24
Crookhaven River	34 54	Fixed	Red	10
Kiama	34 40	„	Green	9
Wollongong	34 25	„	White	10
Bellambi	34 22	Occulting	White and Red	8
Cook's River (Botany Bay)	33 57	Fixed	White ... ..	...
Port Jackson, Sydney—M. Macquarie (Outer South Head).	33 51	Revolving	„	25
Hornby (Inner South Head).	33 50	Fixed	„	14
Broken Bay (Barrenjoey)	33 35	„	Red	10
M. Norah Head	33 17	Flashing	White	18
Port Hunter, Newcastle—M. Nobbys Head (Summit)	32 55	Occulting	„	17
M. Port Stephens—Stephens Point.	32 45	Revolving	{ White and Red }	W. 14 R. 8
Nelson Head (Summit)...	...	Fixed	White and Red	8
M. Sugarloaf Point (Seal Rocks)	32 26	Revolving	White	22
„ (same Tower) ... ..	...	Fixed	Green	3
Forster, Cape Hawke (anchorage).	32 11	„	„	6
Crowdy Head (Summit)	31 51	„	White and Red	12
Tacking Point	31 29	„	White	12
M. Smoky Cape	30 56	Group Flashing	„	28
Monument Rock, Trial Bay.	30 53	Fixed	{ White and Red }	6 3
Coff's Harbour Jetty ...	30 18	„	Red	5
M. South Solitary Island (Summit).	30 12	Revolving	White	20
Clarence River	29 26	Fixed	„	12
Richmond River (2) ...	28 52	{ „	„	12 7
M. Cape Byron	28 38	Flashing	„	26
„ (same Tower) ... ..	...	Fixed	Red ... ..	...
Tweed River (Fingal Head)	28 11	„	White	12

Distance visible.—The distance is calculated visible to an observer whose eye is elevated 15 feet from the sea-level.

The lighthouses marked M above are equipped with Morse signalling lamps, and messages from vessels may be sent to them according to the rules laid down in the British Signal Manual. At Newcastle and at South Head (Port Jackson) the Morse signalling equipments are at the signal stations adjacent to the lighthouses.

The Smoky Cape group-flashing light (visible 28 miles at sea), the Cape Byron flashing light (visible 26 miles), and the Macquarie revolving light, on the South Head of Port Jackson (visible 25 miles), are amongst the most powerful lights in the world. In addition, the light on Point Perpendicular is visible 24 miles; at Seal Rocks, visible 22 miles; at South Solitary Island, visible 20 miles; and at Montague Island, visible 20 miles. Periodical inspection is made of all lighthouses.

Harbour Lights.

Lighted beacons and leading lights are placed for the safety of harbour navigation in the ports of Sydney, Newcastle, Ulladulla, Clarence River, Richmond River, Macleay River, Manning River, Botany Bay, Wollongong, Port Kembla, and Kiama.

In Port Jackson the question of efficient lighting has received considerable attention; leading lights have been erected at the entrance to the port, with occulting lights to mark the channels. The majority of these lights are operated with the Aga system of dissolved acetylene lighting. Electric fog-bells are used in times of fog.

In Port Hunter, leading lights have been placed, and there are also fog-bells.

Fire Appliances—Sydney Harbour.

The salvage pumps, hoses, &c., on three vessels of the Sydney Harbour Trust are maintained in efficient condition, and the Fire Brigade at Goat Island is fully equipped to cope with outbreaks of fires amongst the shipping or on the wharves of the harbour.

DOCKS AND SLIPS.

As the shipping traffic, employing vessels of considerable size, is concentrated at Sydney and Newcastle, accommodation, provided by the Government and by private enterprise, for building, fitting, and repairing ships in the State, is available at these ports. At Sydney there are four graving docks, five floating docks, and six patent slips; at Newcastle there are three patent slips, and in connection with the Government Dockyard, Newcastle, a floating dock designed to lift vessels having a displacement of 8,500 tons is being constructed, at an estimated cost of £110,000. Other docking and building yards are established along the coast to meet the necessities of the smaller vessels engaged in coastal trade.

Particulars as to dock accommodation at Sydney and at Newcastle at 30th June, 1916, are supplied in the following table :—

Name of Dock.	Where situated.	Length.	Breadth.	Draught limits.	Lifting-power of Floating Dock or Patent Ship.
SYDNEY HARBOUR—(PORT JACKSON).					
Graving Docks— Commonwealth Government— No. 1 (Sutherland) No. 2 (Fitzroy)	Cockatoo Island.	ft.	ft.	ft.	tons.
		From outer caisson, 633			
		" inner " 803	84	30	.....
		" outer " 506			
Private— Mort's ...	Mort's Bay, Balmain	640	69 entrance at cope, 59 on floor.	16 ft. 6 in. high water. 12 ft. 6 in. low water.	.....
Woolwich	Parramatta River.	826	100 at cope, 83 at entrance, 75 on floor.	28 high water 23 low "	.....
Floating Docks— Private— Ward's ... Drake's ...	Waterview Bay White Bay, Balmain.	163 150	42 60	10½ 7½	400 300 Dead Weight, 1,400
Woolwich Pontoon Dock.	Woolwich, Parramatta River.	195	56 between altars.	12	
Jubilee ...	Johnston's Bay.	317	38 at entrance.	13	1,200
Small		100	23	7½	80
Patent Ships— Commonwealth Government— No. 1 No. 2	Cockatoo Island.	105	{ Arms, 28 ... Cradle, 29 ... }	9	300
		33	{ Arms, 10 ... Cradle, 6 ... }	4	5
N.S.W. Government Boatshed.	Dawes' Point	82	{ Arms, 17 ... Cradle, 10 ... }	6	100
Private— Mort's No. 1	Mort's Bay, Balmain.	270	30	11 ft. forwd. 16 ft. aft.	1,500
" No. 2		200	25	8 ft. forwd. 14 ft. aft.	800
" No. 3		58	15	4 ft. forwd. 6 ft. 6 in. aft.	40

NEWCASTLE HARBOUR—(PORT HUNTER).

Patent Ships— Private— O'Sullivan's ...	Stockton ...	ft.	ft.	ft.	tons.
		220	40	9 ft. forwd. 12 ft. aft. up to 170 ft. 7 ft. forwd. if 220 ft. long.	1,000
Callen's No. 1	Stockton ...	150	30	8	100
" No. 2		150	30	8	100

Particulars as to the Government graving docks elsewhere along the coast are as follow :—

Locality.	Length on Top.	Breadth at Gates.	Draught limits.
	ft.	ft.	ft.
Tweed River ...	115	42	10
Richmond River ...	214½	45	10
Clarence River ...	115	42	10
Macleay River ...	121	32	7
Manning River ...	128½	40	6½
Shoalhaven River ...	130	26	6

Considerable extensions have been made recently at the Commonwealth Government Dockyard, Sydney Harbour, including the construction of two building-slips, adjacent to Fitzroy Dock, commanded by cantilever electrically-driven cranes. One of the berths is capable of allowing the construction of a vessel of 50 feet beam, 450 feet in length, the other is capable of taking a vessel of a similar beam and 350 feet in length.

Transactions at all Government docks for the years 1914-16 are recorded in the following statement of vessels docked :—

Situation.					1914-15.		1915-16.	
					Vessels.	Tonnage.	Vessels.	Tonnage.
Port Jackson	...	...	...	...	132	243,922	133	185,397
Tweed River	...	...	...	...	10	741	7	539
Richmond River	...	...	...	...	10	1,618	19	1,887
Clarence River	...	...	...	...	15	1,267	18	1,321
Manning River	...	...	...	...	7	89	9	194

SHIP-BUILDING.

The numbers and tonnage of steam and sailing vessels built in New South Wales are shown in the following statement for the years 1876-1916 :—

Years.	Sailing.		Steam.		Motor.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1876-1880	155	9,319	106	7,232	.....	.....	261	16,551
1881-1885	173	7,403	191	17,546	.....	.....	364	24,949
1886-1890	68	2,877	87	5,169	.....	.....	155	8,046
1891-1895	76	2,865	42	2,042	.....	.....	118	4,907
1896-1900	97	4,015	50	3,419	.....	.....	147	7,434
1901-1905	63	3,145	87	5,110	.....	.....	150	8,255
1906-1910	15	656	91	4,458	.....	.....	106	5,114
1911	1	18	10	891	4	77	15	986
1912	2	145	8	1,185	10	140	20	1,470
1913	2	112	10	678	6	100	18	890
1914-15	.....	.....	7	587	4	47	11	634
1915-16	2	184	8	355	6	146	16	685

Although the Act, which controls the registration of shipping in New South Wales, does not require the registration of vessels under 15 tons burthen, few of such vessels remain unregistered. The rules of yachting clubs ensure the registration of the yachts, steamers, and motor boats of the members; and, for the purpose of sale or mortgage, business is facilitated by such registration.

SHIPPING REGISTERS.

The only ports in New South Wales at which shipping registers are maintained by the Navigation Department are Sydney and Newcastle, and the following statement shows the registration on 30th June, 1916, classified according to tonnage :—

Tonnage.	Steam.		Motor.		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
Under 50	279	6,428	169	1,852	286	4,333	734	12,613
50 and under 100 ...	105	7,516	4	284	64	4,668	173	12,468
100 „ 200 ...	64	8,985	...	...	23	3,271	87	12,256
200 „ 300 ...	32	7,450	...	...	9	2,248	41	9,698
300 „ 400 ...	20	6,885	...	...	14	4,926	34	11,811
400 „ 500 ...	9	4,020	...	...	4	1,843	13	5,863
500 „ 600 ...	10	5,594	...	...	1	590	11	6,184
600 „ 1,000 ...	10	7,470	...	...	13	10,271	23	17,741
1,000 „ 1,400 ...	6	6,451	...	...	3	3,647	9	10,098
1,400 „ 1,800 ...	7	10,894	...	...	1	1,453	8	12,347
1,800 and over... ..	9	20,886	...	...	...	...	9	20,886
Total	551	92,579	173	2,136	418	37,250	1,142	131,965

The total tonnage registered at 30th June, 1916, was 131,965,—steam, 92,579; motor, 2,136; and sailing, 37,250; these figures are exclusive of lighters.

The aggregate numbers and tonnage of steam and sailing vessels on the registers at the close of each year, since 1911, are shown in the following statement :—

Year.	Steam.		Motor.		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1911	538	79,907	129	1,502	422	44,888	1,089	126,297
1912	556	98,446	144	1,754	419	40,805	1,119	141,005
1913	567	101,251	158	1,923	416	40,534	1,141	143,708
*1914	563	103,327	167	1,909	427	41,404	1,157	149,640
*1915	564	104,450	169	2,036	427	38,220	1,160	144,706
*1916	551	92,579	173	2,136	418	37,250	1,142	131,965

* At 30th June.

The new tonnage registered in New South Wales since 1906 is summarised in the following table. The figures for steam tonnage, 1912, is far in

excess of previous years, being due to depletions in inter-state shipping having been filled by the purchase and transfer of vessels registered outside of Australia :—

Year.	Steam.		Motor.		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1906	40	11,249	...	...	14	3,243	54	14,492
1907	35	7,664	...	...	15	3,294	50	10,958
1908	42	4,660	...	...	14	4,798	56	9,458
1909	43	6,646	...	...	5	1,783	48	8,429
1910	35	9,951	...	...	4	1,377	39	11,328
1911	36	7,502	...	...	10	1,945	46	9,447
1912	42	22,106	18	288	11	988	71	23,382
1913	29	8,367	16	246	29	2,220	74	10,833
1914-15	18	6,753	10	245	15	353	43	7,351
1915-16	9	1,874	6	146	3	883	18	2,903

The number of vessels built outside New South Wales, included in these registrations, is as follows :—

Year.	Steam.		Motor.		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1906	6	10,261	...	...	4	2,831	10	13,092
1907	9	6,487	...	...	7	3,144	16	9,631
1908	13	3,392	...	...	10	4,648	23	8,040
1909	7	5,525	...	...	4	1,780	11	7,305
1910	12	8,741	...	...	2	1,285	14	10,026
1911	10	6,085	...	...	7	1,813	17	7,898
1912	29	20,723	1	30	7	683	37	21,436
1913	13	7,210	2	50	25*	2,096	40	9,356
1914-15	6	5,586	1	23	13	325	20	5,934
1915-16	1	1,519	...	...	1	699	2	2,218

* Mostly small pearl-fishing boats, transferred from another register.

In connection with this statement of the origin of vessels registered, it is of interest to record the number and value of vessels built abroad and brought into New South Wales for the local trade since 1906 :—

Year.	From United Kingdom.		From Other Countries.		Total.	
	Vessels.	Aggregate Value.	Vessels.	Aggregate Value.	Vessels.	Aggregate Value.
		£		£		£
1906	6	160,000	3	8,300	9	168,300
1907	9	234,760	6	24,940	15	259,700
1908	10	179,000	7	10,450	17	189,450
1909	8	191,750	2	4,150	10	195,900
1910	9	304,000	2	23,750	11	327,750
1911	6	172,300	7	30,000	13	202,300
1912	22	573,515	5	22,405	27	595,920
1913	10	228,968	5	21,982	15	250,950
1914	5	177,948	7	1,950	12	179,898
1914-15	3	87,096	2	2,206	5	89,302
1915-16	4	74,913	1	3,843	5	78,756

Changes on the register by sales since 1906 are summarised as follows. Sales to foreign buyers result in removal of the vessels from the registers :—

Year.	To British Buyers.						To Foreign Buyers.					
	Steam.		Motor.		Sailing.		Steam.		Motor.		Sailing.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1906	47	3,159	...	...	32	3,059	...	...	...	...	52	1,287
1907	38	3,161	...	...	29	2,269	2	1,849	...	...	21	443
1908	68	5,964	...	...	23	3,745	...	...	...	...	1	13
1909	36	4,137	...	...	32	3,749	...	...	...	...	2	1,939
1910	54	5,146	...	...	31	5,650	2	1,530	...	...	...	...
1911	57	5,072	...	...	31	2,466	2	50	...	...	3	57
1912	59	9,148	...	...	39	4,098	2	7	...	...	4	138
1913	30	10,623	13	190	43	2,561	...	...	...	...	4	138
1914-15	16	2,328	13	305	11	758	1	1,168	...	...	1	14
1915-16	36	6,289	6	97	19	3,408	1	917	...	...	...	...

QUARANTINE.

The administration of all matters relating to seaboard quarantine is under control of the Federal Minister for Trade and Customs. The Commonwealth Quarantine Act, 1908-1912, defines the vessels which shall be subject to quarantine, and provides for the exclusion, detention, observation, segregation, isolation, protection, sanitary regulation, and disinfection of vessels, persons, goods, things, animals, or plants, so as to prevent the introduction or spread of diseases or pests into the Commonwealth. Particulars of vessels examined by the Government Port Health Officers at Sydney and Newcastle during each of the last ten years, are shown in the following table :—

Year.	Vessels.		Persons.		
	Examined.	Vessels Fumigated.	Passengers.	Crews.	Total.
1906	871	141	12,016	42,376	54,392
1907	969	160	9,656	39,298	48,954
1908	740	44	7,300	31,477	38,777
1909	628	67	8,227	29,075	37,302
1910	655	71	11,313	30,328	41,641
1911	737	196	25,160	38,755	63,915
1912	689	878	23,668	37,719	61,387
1913	773	1,016	27,474	46,354	73,828
1914-15	532	900	20,394	33,266	53,660
1915-16	701	937	26,409	41,403	67,812

Vessels arriving in Australian ports from overseas are examined at the first port of call, and also, in the case of vessels from places north of Australia, at the last port of call, and pratique is given ordinarily for the whole of the Commonwealth. The quarantine station at North Head, Port Jackson, as maintained by the State Government, was transferred to the Commonwealth for the purpose of human quarantine.

Stock quarantine is undertaken at Athol Bay, Port Jackson, where 84 horses, 33 head of cattle, 54 sheep, and 48 dogs were detained during the year ended 30th June, 1916.

DREDGING.

The dredging service is controlled by the Department of Public Works for the ports and rivers other than Port Jackson, where the Sydney Harbour Trust is in control.

The following statement summarises the operations of the Dredge service for the year ending 30th June, 1916, in the effort to prevent the shoaling of entrances, and to deepen existing channels wherever necessary :—

Class of Dredge.	Number of Dredges.	Tons Dredged.	Hours Dredging.	Expenditure.				
				Dredging only.			Dredging and Towing.	
				Total.	Per Ton.	Per Hour.	Total.	Per Ton.
Harbours and Rivers—				£	pence.	£ s. d.	£	pence.
Ladder	5	601,650	4,919	19,331	7-61	3 18 1	25,939	10-21
Sand-pump	12	2,500,570	8,380	66,100	6-34	7 17 9	71,682	6-88
Small Sand-pump	8	765,095	12,318	18,553	5 82	1 10 1	19,128	6 00
Grab	9	205,533	7,490	7,641	8-62	1 0 5	10,636	12-46
Total	34	4,080,848	33,137	111,025	6-56	3 7 4	127,385	7-50
Sydney Harbour Trust—								
Sand-pump and Grab	11	2,092,918	12,647	28,247	3-23	2 4 8	43,651	5-35

In the towing of dredged material from harbours and rivers fourteen tugs were engaged for the year 1915-16. For the Sydney Harbour Trust, twelve tugs were engaged in towing during the year. The following statement shows the expenditure on dredging and towing services at each port for the last two years :—

Locality.	Cost of Dredging and Towing.		Locality.	Cost of Dredging and Towing.	
	1914-15.	1915-16.		1914-15.	1915-16.
Tweed River	£ 4,718	£ 5,440	Forster (Cape Hawke)	£ 2,320	£ 275
Richmond River	12,013	12,074	Newcastle Harbour	69,004	61,010
Clarence River	15,686	13,559	Lake Macquarie	5,634	2,250
Bellinger River	5,128	4,862	Cook's River & George's River	3,722	6,261
Nambucca River	3,987	3,025	Bateman's Bay ... ..	.....	1,177
Macleay River	1,622	727	Moruya River	1,405	.....
Port Macquarie and Wilson River	2,859	4,634	Wagonga River	547	992
Camden Haven ... ..	.....	1,105	Total	£ 137,602	127,385
Manning River	8,957	9,904	Port Jackson (Sydney Harbour Trust)	£ 37,626	46,691

During the year 1915-16 the quantity of silt removed from the bed of Sydney Harbour amounted to 2,092,918 tons. The Eastern channel of the harbour has been dredged to a depth of 40 feet, and the Western channel is now being deepened similarly.

PORT DUES.

Shipping charges payable on account of vessels entering ports of New South Wales include pilotage rates (unless the Master holds an exemption certificate) harbour removal dues, harbour and light rates, wharfage rates, and tonnage rates. In addition to these charges, regulations under the Navigation Act, stipulate the fees for "swinging ships for the adjustment of compasses," and for surveys and the issue of certificates, &c. Fees for engagement and discharge of seamen are fixed by the Seamen's Act, 1898. The Customs Acts impose upon the master of every ship the duty of reporting the ship and cargo.

Pilotage Rates are 2d. per ton on entry or clearance, except in the following cases :—

Ships entering or clearing in ballast, or entering for docking or re-fitting, 1d. per ton.

Ships compelled to enter port for repairs, provisions, orders, &c., or to coal, 1d. per ton on arrival or departure.

Minimum fee, Sydney or Newcastle, £2 10s.; other ports, £1 5s.; maximum fee £20.

Harbour Removal Dues.—Ships of 300 tons, £1; increasing 5s. per 100 tons to 600 tons. Thereafter 600–800 tons, £2; 800–1,000 tons, £2 10s.; increasing £1 per 500 tons to a maximum of 2,000 tons.

Harbour and Light Rates.—Half-yearly charges 4d. per ton. Payment at one port carries exemption for the half year for all other ports of the State. Rates are not enforced against vessels engaged in the whaling trade, nor vessels compelled to enter a port for repairs, orders, provisions, &c.

Wharfage Rates and Tonnage Rates.—These rates are charged at ports other than Sydney in accordance with schedules to the Wharfage and Tonnage Rates Act.

PORT JACKSON (SYDNEY HARBOUR).

Inward Wharfage and Harbour Rate.—Payable by owners on goods entering the port of Sydney, except goods belonging to H.M. Government and passengers' luggage. On general merchandise the rate is 3s. per ton, weight or measurement, but there are a number of special rates lower than the general rate.

Outward Wharfage and Harbour Rate.—Payable by owners on goods, chargeable with outward rates, leaving the port. The general rate is 10d. per ton on the leading lines of primary products, but there is a special rate of 6d. per bale on wool, 6d. per ton on wheat, 3d. per ton on coal and coke, and 4½d. per ton on ore.

Transhipment Rates.—There is a general rate of 5d. per ton on all goods in respect of which a transhipment entry is passed within 48 hours of vessel reporting, either at the Customs or with the Commissioners, and which are removed from wharves within fourteen days of landing thereon. There are a number of special rates, ranging down to ½d. per ton. Failure to pass entries or to remove goods within the stipulated time entails the penalty of double rates. As some cargo (notably timber) accumulates on wharves for a considerable period before it is transhipped into the outgoing vessel, the Commissioners extend the period of fourteen days whenever good reason for so doing is adduced. No charge is made by the Commissioners on over-carried cargo.

Tonnage.—Tonnage is levied on all vessels, over 240 tons register, berthed at the wharves, &c., in the port of Sydney, vested in the Sydney Harbour Trust Commissioners. The rate is $\frac{1}{2}$ d. per ton per day for each ton of the gross registered tonnage of the vessel for each period of twenty-four hours. In calculating tonnage, portions of a day are charged a proportion of one-quarter, one-half, and three-quarters respectively, of the amount leviable for the whole day.

Berthing Charges.—On vessels under 240 tons register, berthing charges are levied at rates ranging from a minimum of 2s. 6d. to a maximum of 10s. per vessel, according to the tonnage thereof.

DISTANCES FROM SYDNEY.

The distances by water between Sydney and some of the principal ports of the world are as follows:—

Sydney to—	Miles.	Sydney to—	Miles.
Adelaide	1,080	London, <i>via</i> Suez direct... ..	11,863
Albany	2,090	London, <i>via</i> Cape Horn	13,070
Auckland	1,281	London, <i>via</i> Cape of Good Hope... ..	12,500
Brisbane	503	London <i>via</i> Panama	12,222
Capetown	6,774	Melbourne... ..	576
Darwin	2,540	New York, <i>via</i> Panama... ..	9,704
Fremantle	2,450	San Francisco	6,445
Hobart	623	Singapore	4,300
Hong Kong	4,130	Suva	1,743
Honolulu	4,523	Vancouver... ..	6,715
London, <i>via</i> Vancouver	11,550	Wellington	1,239

CREWS.

In 1902, the crews of vessels entering New South Wales ports averaged 42 per vessel; in 1915–16, the average was 56. The following statement shows the aggregate crews of vessels, oversea and interstate, entered and cleared New South Wales ports, for the years 1910–16:—

Nationality of Shipping.	1910.	1911.	1912.	1913.	1914–15.	1915–16.
Entries:						
British—						
Australian	61,387	65,351	69,960	79,405	82,684	79,707
United Kingdom	61,199	66,100	69,963	74,547	63,185	65,334
Other Possessions	16,336	17,825	21,559	21,099	21,114	7,507
Total British	138,922	149,276	161,482	175,051	166,983	152,548
Foreign	23,698	26,876	31,537	32,685	17,917	18,872
Total Crews	162,620	176,152	193,019	207,736	184,900	171,420
Clearances:						
British—						
Australian	62,898	65,827	69,468	79,352	83,488	79,880
United Kingdom	62,423	65,195	68,538	72,903	64,990	66,679
Other Possessions	16,287	17,291	21,365	21,003	20,936	7,507
Total British	141,608	148,313	159,371	173,258	169,414	154,066
Foreign	23,788	26,864	31,176	32,845	18,677	19,124
Total Crews	165,396	175,177	190,547	206,103	188,091	173,190

The crews of shipping on the New South Wales register at 30th June, 1916, numbered 6,650, viz., 4,755 on steamers, 446 on motor vessels, and 1,449 on

sailing vessels. On the shipping added to the registers during the year ending 30th June, 1916, the crews were 127, viz., steam, 74; motor, 21; sailing, 32.

Government Shipping Offices.

Government Shipping Offices are maintained at Sydney and Newcastle to deal with matters relating to the engagement and discharge of seamen of British vessels. Following are the records of transactions at each of these shipping offices for the last five years :—

Year.	Engagements registered.			Discharges registered.			Licenses to ship.		
	Sydney.	Newcastle.	Total.	Sydney.	Newcastle.	Total.	Sydney.	Newcastle.	Total.
1911	25,293	2,653	27,946	24,971	1,898	26,869	4,143	715	4,858
1912	30,332	3,619	33,951	31,085	2,885	33,970	3,112	667	3,779
1913	31,054	3,670	34,724	31,977	2,712	34,689	1,855	628	2,483
1914-15	32,370	4,844	37,214	31,419	4,150	35,569	2,551	395	2,946
1915-16	30,585	4,276	34,861	29,646	3,303	32,949	2,549	201	2,750

During the year ended 30th June, 1916, seamen reported as deserters from British vessels trading on foreign voyages numbered 433, viz., 297 at Sydney, and 136 at Newcastle. The wages paid to seamen through the shipping offices amounted to £175,135 of which £164,650 was paid at Sydney. Wages issued in advance notes amounted to £2,195, of which £1,275 was recorded for Newcastle.

Masters of foreign vessels engage and discharge seamen at the offices of the consuls representing the countries to which the vessels belong, and no particulars are available in regard to these transactions.

WAGES.

The wages paid to the officers and crews of vessels in the Australian trade are regulated by Awards of the Commonwealth Court of Conciliation and Arbitration. The average wages paid per month during 1915 were as follows :—

Occupation.	Oversea.		Interstate and New Zealand.		Coastal.	
	£ s.	to £ s.	£ s.	to £ s.	£ s.	to £ s.
Officers—Chief ...	8 0	to 20 0	10 0	to 20 0	9 0	to 23 10
Second ...	9 0	„ 17 0	8 0	„ 17 0	12 0	„ 15 10
Third ...	7 0	„ 14 0	12 0	„ 14 0	.....	.....
Fourth ...	6 0	„ 10 0	10 0	„ .....	.....	.....
Engineers—Chief ...	20 0	„ 34 0	22 0	„ 34 0	14 0	to 32 0
Second ...	14 0	„ 22 0	16 0	„ 22 0	15 0	„ 23 0
Third ...	9 10	„ 18 0	14 0	„ 18 0	17 0	„ 19 0
Fourth ...	6 10	„ 15 0	12 0	„ 15 0	.....	.....
Firemen ...	5 10	„ 11 5	10 0	„ 11 5	10 0	to 11 10
Trimmmers ...	5 0	„ 9 5	8 0	„ 9 5	9 5	.....
Seamen—Steamers ...	5 0	„ 9 5	8 0	„ 9 5	8 0	to 10 10
Sailing Ships ...	5 10	„ 7 0	5 10	„ 7 0	6	.....
Cooks ...	6 0	„ 16 0	8 0	„ 16 0	7 0	„ 13 10
Stewards—Chief ...	7 0	„ 18 0	10 0	„ 16 10	7 0	„ 13 10
Assistant ...	3 0	„ 9 0	3 0	„ 9 0	.....	.....
Stewardesses ...	2 0	„ 5 0	2 0	„ 5 0	3 10	to 5 0

SEAMENS' COMPENSATION ACT.

The Seamen's Compensation Act, 1911, applies to ships in the service of the Commonwealth (exclusive of naval or military service), and to ships trading with Australia, or engaged in any occupation in Australian waters, or in trade and commerce with other countries or among the States. The schedules to the Act indicate the amount of compensation payable, in case of death or total or partial incapacity, resulting from personal injury by accident to seamen in the course of their employment. Regulations also indicate methods of procedure for recovery of compensation.

COMMERCE.

UNDER the Constitution Act, power to make laws with respect "to trade and commerce with other countries and among the States" was vested in the Commonwealth Parliament, and control of the Customs and Excise Department, was transferred from the State to the Commonwealth at the commencement of the Federation in 1901; and the duty of collecting statistics of the trade of the States, oversea and interstate, has devolved since that date on the Commonwealth Government. Following on alterations in the financial arrangements between the Commonwealth and the States, the Federal Government ceased to collect particulars of the interstate trade from 13th September, 1910; consequently the figures shown in this chapter relate only to oversea trade—that is to the trade of New South Wales with countries outside the Commonwealth.

DETERMINATION OF VALUES.

The recorded value of goods imported, as shown in the tables throughout this chapter, represents the amount on which duty is payable, or would be payable if the duty were *ad valorem*. The value of goods subject to duty is taken to be the fair market value in the principal markets of the country whence exported, plus 10 per cent. to cover the cost of packing, insurance, freight, and all other charges. The value of goods exported is the value in the principal markets of the State.

CUSTOMS AND TARIFFS.

The Customs Act of 1901 provided for the necessary machinery to administer matters relating to Customs, and prescribed the manner in which duties were to be computed and paid. The Customs Act, No. 9 of 1910, relates to interstate accounts and to dutiable goods passing between the States. Act No. 36 of 1910 assigns to the Customs Department control over all goods for export, and, subject to restrictions under any enactment, extends the provisions of earlier Acts in regard to prohibited goods, payments of duty, weight and measurement, &c. It provides also for supervision of preparation or manufacture for export of articles used for or with food or drink for human consumption, and establishes conditions as to purity, soundness, and freedom from disease of goods designed for export.

The various Customs Tariff Acts provide general and special tariffs, uniform for all the States. Preferential rates of duty apply to certain goods imported from and being produced within the Union of South Africa, and the Customs Tariff, 1908, provides preference rates of Customs duties for certain goods the produce or manufacture of the United Kingdom.

SEA CARRIAGE OF GOODS.

The Sea Carriage of Goods Act nullifies any clause in a Bill of Lading or similar document, covenanting or agreeing—(a) that the owner, charterer, master, or agent of any ship, or the ship itself, is relieved from liability for loss or damage to goods arising from the harmful or improper condition of the ship's hold or any other part of the ship in which the goods are carried, or arising from negligence, fault, or failure in the proper loading, stowage, custody, care, or delivery of goods received . . . to be carried in or by the ship; (b) to lessen any obligations of owner or charterer to exercise due diligence, and to properly man, equip, and supply the ship, to make and keep it seaworthy, and to make and keep the hold, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and

safe for their reception, carriage, and preservation; (c) or to lessen the obligations of master, officers, agents, and servants of any ship carefully to handle and stow goods, and to care for, preserve, and properly deliver them.

SECRET COMMISSIONS.

The Secret Commissions Act in regard to agencies and contracts, prohibits any gift or consideration as an inducement or reward, in matters affecting the principal's affairs or business.

TRADE DESCRIPTIONS AND SUPERVISION OF EXPORTS.

Regulations under the Commerce (Trade Descriptions) Act, 1905, prohibit the import and export of specified goods unless a trade description is applied to such goods. A high standard of the quality of goods is assured by the enforcement of the Regulations.

Goods are inspected and examined, and in certain cases a declaration by the exporter must also accompany the notice of intention to export.

Approved goods for export are marked with an official stamp, butter and cheese are graded, and carcase meat, rabbits, and hares are classified and marked.

Special instructions are issued to meat inspectors regarding supervision and inspection of meat for export, under the Commerce Act, and standard requirements are set for abattoirs and premises where meat is preserved for export.

WAR LEGISLATION AFFECTING TRADE.

Since the commencement of the war, the Parliament of the Commonwealth has passed some necessary measures, as the war has affected considerably the trade of the State.

The Trading with the Enemy Acts, 1914-16, make it an offence during the continuance of the war to trade with the enemy. The Enemy Contracts Annulment Act, 1915, contains a clause declaring that every enemy contract made before or after commencement of the war is to be null and void. The Customs Act, 1914, gives the Governor-General authority to prohibit the exportation of any goods in time of war, and, in consequence, a large number of articles have been prevented from leaving the State.

LOCAL INDUSTRIES.

Preservation and Encouragement.

The enactments relating to the preservation of Australian industries extend also to the repression of destructive monopolies, so that it is an offence for any person or corporation to make or engage or continue in any combination "to restrain trade or commerce to the detriment of the public, or to destroy or injure by means of unfair competition any Australian industry, the preservation of which is advantageous to the Commonwealth, having due regard to the interests of the producers, workers, or consumers." Monopoly of, or attempt or conspiracy to monopolise, any part of the trade of the Commonwealth, so as to control to the detriment of the public the supply or price of any service, merchandise, or commodity, is an offence, as also the payment of rebates, or the refusal to sell so as to promote exclusive dealing.

INTERSTATE COMMISSION.

The Interstate Commission Act, 1912, provides for the appointment by the Commonwealth Government of three Commissioners, who are charged with the duty of investigating any matter affecting trade and commerce.

BOUNTIES ON EXPORTS.

To encourage local industries, general and specific legislation has been passed by the Commonwealth Parliament. The Bounties Act, 1907,

provides for the payment of bounties on exports of combed wool or wool tops, also on dried fruits (currants and raisins excepted). The bounty on wool tops for the three years from 1st January, 1909, was 1½d. per lb., and from January, 1912, to end of 1915, was fixed at 1d. per lb. for the first million lbs. by one manufacturer during a year, and ¾d. per lb. in excess of this amount. The bounty paid for wool tops for the year 1915-16 amounted to £5,828, the whole of the production coming from works at Botany.

CUSTOMS AND EXCISE REVENUE.

Between 1st January, 1901, when the Department of Customs and Excise was transferred to the control of the Commonwealth, and 8th October, 1901, when the first uniform Federal tariff was introduced in the Federal Parliament, the State tariff, which had been on a freetrade basis, was administered by the Commonwealth. On 8th August, 1907, a new tariff superseded that of 1901, the duties in many cases being increased considerably. Duties of Customs and Excise are now collected under the Customs Act, 1901-16, the Customs Tariff, 1908-1911, the Excise Tariff, 1908, the Excise Tariff (Starch), 1908, the Excise (Sugar) Act, 1910, and Excise Tariff, 1913.

The following statement shows the gross amounts collected in New South Wales under each division of the tariff during the year ended 30th June, 1916, and shows the drawbacks, refunds, and the net collections:—

Division.	Article.	Gross Collections paid into Revenue.	Draw-backs Paid.	Refunds.	Net Collections.
		£	£	£	£
I.	Stimulants, Ale, Beer, &c.	1,132,456	290	609	1,131,557
II.	Narcotics	878,407	....	132,966	745,501
III.	Sugar	295,147	5,159	22	289,966
IV.	Agricultural Products and Groceries	643,284	22,236	20,054	600,994
V.	Apparel and Textiles	1,248,829	21,634	8,526	1,218,669
VI.	Metals and Machinery	661,933	8,080	9,753	644,100
VII.	Oils, Paints, and Varnishes	183,995	7,036	1,277	175,682
VIII.	Earthenware, &c.	150,650	1,827	1,845	146,978
IX.	Drugs and Chemicals	82,285	3,669	608	78,008
X.	Wood, Wicker, &c.	167,344	2,237	531	164,576
XI.	Jewellery and Fancy Goods	209,655	4,275	2,052	203,328
XII.	Leather and Rubber	264,793	7,404	1,563	255,826
XIII.	Paper and Stationery	165,194	1,537	1,568	162,089
XIV.	Vehicles	192,909	1,538	1,676	189,695
XV.	Musical Instruments	55,731	329	443	54,959
XVI.	Miscellaneous	149,530	2,881	1,496	145,153
	Customs Miscellaneous	19,149	....	395	18,751
	Total, Customs Duties	£ 6,501,291	90,132	185,327	6,225,832
	Excise—				
	Beer	563,185	1,264	....	561,921
	Spirits	303,183	82	160	302,941
	Sugar	30	....	....	30
	Tobacco	241,392	....	....	241,392
	Cigars	4,752	....	....	4,752
	Cigarettes	651,079	....	....	651,079
	Licenses—Tobacco	867	....	....	867
	„ Other	918	....	....	918
	Total, Excise Duties	£ 1,765,406	1,346	160	1,763,900
	Total Customs and Excise Duties	£ 8,266,697	91,478	185,487	7,989,732

The amounts collected in New South Wales from customs and excise, and the proportion per head of population during the last ten years, appear in that portion of this Year Book dealing with Public Finance.

As Sydney is a distributing centre for the whole of Australia, it follows that, though the customs revenue of New South Wales received at this port was larger than that of any other State, the figures include customs receipts for goods which were, in the course of trade, transferred to and consumed in other States.

The following table shows the oversea trade at each port and customs station in New South Wales, with customs and excise revenue collected for the year ended 30th June, 1916 :—

Port or Station.	Oversea Trade.			Customs and Excise Revenue Collected.
	Imports.	Exports.	Total.	
	£	£	£	£
Sydney	32,271,619	39,814,898	72,086,517	8,020,496
Newcastle	1,067,558	1,149,632	2,217,190	211,405
Clarence River ... ..	.....	8,119	8,119	.....
Morpeth ... ..	.....	.....	.....	5,672
Port Kembla ... ..	.....	2,767	2,767	.....
Albury	5,374	.....	5,374	2,536
Allanda's ... ..	.....	.....	.....	477
Broken Hill	35,147	.....	35,147	25,909
Corowa (Wahgunyah) ... ..	.....	.....	.....	202
New South Wales	33,379,698	40,975,416	74,355,114	8,266,697

IMPORTS AND EXPORTS.

The average annual values of oversea imports and exports during the quinquennial periods between 1885 and 1909, and for each year since 1910, are quoted below :—

Period.	Imports (Average Annual Value).	Exports (Average Annual Value).	Per head of Population.		
			Imports.	Exports.	Total Oversea Trade.
	£	£	£ s. d.	£ s. d.	£ s. d.
1885-89	13,514,534	10,624,323	13 10 2	10 12 6	24 2 8
1890-94	11,689,109	13,138,884	9 19 9	11 4 7	21 4 4
1895-99	12,233,446	16,985,808	9 9 5	13 3 0	22 12 5
1900-04	15,418,701	18,879,740	11 0 5	13 9 11	24 10 4
1905-09	18,733,104	28,264,999	12 7 1	18 12 11	31 0 0
1910	23,238,993	32,035,451	14 7 7	19 16 5	34 4 0
1911	27,343,423	32,161,401	16 8 7	19 6 5	35 15 0
1912	32,303,630	32,958,529	18 11 7	18 19 1	37 10 8
1913	32,350,663	32,839,789	17 17 7	18 3 0	36 0 7
*1914	16,677,336	15,738,313	9 0 9	8 10 8	17 11 5
†1915	27,323,243	28,107,025	14 13 6	15 1 11	29 15 5
†1916	33,379,698	40,975,416	17 17 3	21 18 6	39 15 9

* Six months ended 30th June.

† Twelve months ended 30th June.

Between 1910 and 1916 the annual increases in the volume of trade were considerable, the figures for 1912 and 1916 being particularly noticeable.

The value of the exports from year to year forms a sure index of the progress of this country, the result of a rise or fall in the value of the staple commodities, or of a depression in production, being readily traceable in the corresponding rise or fall in the export values. Oversea exports were the highest in 1916, when the prices of wool, copper, lead, hides, &c., were abnormally high on account of the demand for war purposes. There was a decrease in value in 1908 and 1909, caused by the decline in the prices of pastoral and mineral products, but in 1910 and 1916, the values show a sharp rise.

The volume of imports has a close connection with State finances, as loans raised outside the State reach the State in the form of goods, which are shown in the import returns. Thus 1881 to 1891, and 1899 to 1902, were

years of large borrowing. In the years 1900 and 1901 also the imports underwent abnormal expansion on account of loading-up by merchants in anticipation of the Federal tariff. The value of oversea imports in 1916 was the highest for the whole period.

Difficulty in connection with freights has been a disturbing factor in trade matters during the last three years on account of war conditions.

DISTRIBUTION OF TRADE.

The table following shows the distribution of the oversea trade of New South Wales for the year ended 30th June, 1916, also the values of imports according to country of origin. It is not possible to trace exports to their ultimate destination:—

Country.	Imports according to Country.		Exports direct.	Total trade.
	Of Origin.	Whence imported.		
	£	£	£	£
Australian States	32,072	.....	.....	.....
United Kingdom	13,629,280	15,608,510	15,320,054	30,928,564
Other British Possessions—				
Aden	567	1,136	19	1,155
Anglo-Egyptian Sudan	7	.....	.....	.....
Canada	629,527	981,845	650,264	1,632,109
Ceylon	514,501	522,163	87,573	609,736
Cocos Island ... ..	.....	.....	620	620
Cyprus	1	1	.....	1
East Africa	195	.....	1,206	1,206
Egypt	10,110	10,163	144,997	155,160
Ellice Islands	2,200	2,201	1,868	4,069
Fanning Island ... ..	.....	.....	1,441	1,441
Fiji	592,325	594,632	289,856	884,468
Gibraltar ... ..	.....	1	18,176	18,177
Gilbert Islands	25,252	25,309	35,522	60,831
Gold Coast	4,166	.....	.....	.....
Guiana	5,014	.....	.....	.....
Honduras	3	.....	.....	.....
Hong Kong	5,630	200,879	252,750	453,638
India	1,521,452	1,499,447	485,762	1,985,209
Malay States (Federated)	866	1	.....	1
Malta	397	221	40,446	40,667
Mauritius	3	6	1,382	1,388
Newfoundland	1,233	.....	.....	.....
New Zealand	1,581,567	1,702,753	2,421,292	4,124,045
Nive ... ..	.....	.....	2	2
Norfolk Island	6,544	6,892	11,823	18,715
North Borneo ... ..	.....	.....	490	490
Ocean Island	43,292	43,538	23,933	67,471
Papua	58,680	59,992	107,568	167,560
Sierra Leone	211	.....	.....	.....
Socotra	4	.....	.....	.....
Solomon Islands	76,047	76,440	108,150	184,590
Somaliland	4	.....	.....	.....
South African Customs Union	522,564	401,026	128,016	529,042
Southern Nigeria	56	.....	.....	.....
Straits Settlements	66,078	305,992	263,623	569,615
Uganda	4	.....	.....	.....
West Indies	23,026	.....	.....	.....
Zanzibar	1,280	.....	17	17
Total, British Possessions	19,354,758	22,043,148	20,396,839	42,439,987
Foreign Countries—				
Abyssinia	255	.....	.....	.....
Alaska	1,919	.....	.....	.....
Algeria	18	.....	.....	.....
Amboina	190	.....	.....	.....
Arabia	14,100	.....	.....	.....
Argentine Republic	162,486	159,625	86	159,711
Asia Minor	12	.....	.....	.....
Austria-Hungary	3,439	.....	.....	.....
Banca	1,667	.....	.....	.....
Belgium	36,450	1,629	420	2,049
Bismarck Archipelago	80,037	83,292	202,763	286,060
Borneo (Dutch)	45,942	32,747	273	33,020
Brazil	15,240	.....	15	15

Country.	Imports according to Country.		Exports direct.	Total trade.
	Of Origin.	Whence imported.		
<i>Foreign Countries—continued.</i>	£	£	£	£
Bulgaria	485	.....	.....	.....
Canary Islands	186	2	.....	2
Caroline Islands	4	4	7	11
Celebes	1,240	6,296	3,192	9,488
Chile	94,652	94,634	114,215	208,849
China	323,108	116,838	67,220	184,058
Cochin China	4,561	797	2,395	3,192
Colombia	6,952	.....	.....	.....
Congo (Belgium)	3,380	.....	.....	.....
Congo (French)	206	.....	.....	.....
Cuba	20,009	1	.....	1
Curaçoa	1,081	2	.....	2
Denmark	37,139	30,053	68	30,121
East Africa (Portuguese)	755	.....	.....	.....
Ecuador	13,333	87	4,490	4,577
France	733,824	130,721	1,498,631	1,629,352
Germany	65,230	19,549	.....	19,549
Greece	10,650	953	6	959
Greenland	898	.....	.....	.....
Guatemala	6,848	.....	.....	.....
Hawaiian Islands	1,078	1,281	42,391	43,672
Italy	428,458	333,774	1,934,012	2,267,786
Japan	1,270,955	1,274,348	2,354,584	3,628,932
Java	450,289	572,621	187,636	760,257
Kaiser Wilhelm's Land	4,083	4,026	4,321	8,347
Korea	4,289	.....	9	9
Luxembourg	263	.....	.....	.....
Madagascar	2,130	.....	.....	.....
Madeira	366	.....	.....	.....
Manchuria	342	.....	.....	.....
Marshall Islands	26,819	26,819	4,774	31,593
Mesopotamia	10,096	15,290	.....	15,290
Mexico	485	.....	.....	.....
Moluccas	218	.....	516	516
Monaco	3	3	.....	3
Morocco	10,688	.....	.....	.....
Netherlands	160,466	3,520	.....	3,520
New Caledonia	41,146	43,569	179,377	222,946
New Guinea (Dutch)	1,020	1,020	709	1,729
New Hebrides	31,174	32,103	51,910	84,013
Nicaragua	30	.....	.....	.....
Norway	243,460	222,352	4	222,356
Panama	81	.....	.....	.....
Paraguay	32	1	.....	1
Persia	7,966	.....	.....	.....
Peru	349,592	348,984	50,119	399,103
Philippine Islands	72,696	73,638	52,508	126,146
Pleasant Island	28,820	29,310	10,855	40,165
Portugal	20,330	1,764	.....	1,764
Reunion	22	.....	.....	.....
Russia	16,650	927	497,603	498,530
Saint Thomas' Island (West Africa)	433	.....	.....	.....
Samoa (American)	702	735	3,161	3,896
Samoa (German)	42,924	43,554	62,660	106,214
San Salvador	404	.....	.....	.....
Servia	637	.....	.....	.....
Siam	694	543	1,787	2,330
Society Islands	13,063	9,116	2,379	11,495
Solomon Islands (German)	109	71	1,475	1,546
Spain	60,173	1	75,037	75,038
Sudan	1,242	.....	.....	.....
Sumatra	205,433	276	13,162	13,438
Sweden	218,550	198,081	36	198,117
Switzerland	603,117	35,632	653	36,285
Syria	3,421	.....	.....	.....
Timor (Dutch) ... ..	.....	.....	158	158
Timor (Portuguese)	12	18	1,405	1,423
Tonga	23,190	11,683	18,549	30,232
Turkey (in Europe)	2,103	.....	.....	.....
United States of America	7,977,918	7,374,260	13,132,683	20,506,943
Uruguay	344	.....	.....	.....
Venezuela	73	.....	.....	.....
Wallis Island	17	.....	318	318
West Africa (Portuguese)	38	.....	.....	.....
Total, Foreign Countries	14,024,940	11,336,550	20,578,577	31,915,127
Grand Total	33,379,698	33,379,698	40,975,416	74,355,114

The proportion of British to total trade affords satisfactory evidence of the continued cohesion of Empire trade. Of oversea imports, according to country of origin, approximately 58 per cent. were of British manufacture or production, thus leaving 42 per cent. of foreign origin. But approximately 47 per cent. of the total imports were shipped from the United Kingdom, 19 per cent. from British Possessions, or a total of 66 per cent. from British countries, the difference in favour of British shipments as against those of foreign countries being attributable to the advantages of Great Britain as a transshipping country. The imports shipped from foreign countries represented 34 per cent. of the total. Of the exports from New South Wales, 50 per cent. were shipped to British countries, while of the total trade about 57 per cent. was British.

The trade of the State is greater with the United Kingdom than with any other country. The real trade with the United Kingdom is not shown, however, because, in addition to foreign goods sent to Australia *via* London, a proportion of the goods sent from New South Wales to Victoria and South Australia is shipped eventually to the United Kingdom, also some of the goods shipped to the United Kingdom are destined for transshipment to foreign ports. The extent of the export trade with the United Kingdom may be gauged by the relation between the values of goods originating in, and the values of goods shipped from, the United Kingdom.

In quinquennial periods, since 1880, the volume of oversea imports divided under the heads of (a) British Empire—*i.e.*, United Kingdom and other British territory—and (b) Foreign countries, shows that in the last sixteen years, while the volume of trade with the British countries has increased absolutely year by year, yet relatively to foreign countries the position is not so satisfactory. Following are the import figures:—

Period.	Imports from:—			Total Imports.
	British Empire.		Foreign Countries.	
	United Kingdom.	Other British Countries.		
	£	£	£	£
1880-84	48,726,544	7,092,661	9,502,846	65,322,051
1885-89	48,279,604	8,134,224	11,063,225	67,477,053
1890-94	41,293,833	6,943,513	10,208,197	58,445,543
1895-99	37,123,060	7,775,602	16,271,863	61,170,525
1900-04	43,118,128	10,147,402	23,827,977	77,093,507
1905-09	55,312,612	15,422,106	22,930,804	93,665,522
1910	14,385,633	3,240,358	5,613,002	23,238,993
1911	15,740,509	4,284,573	7,318,346	27,343,428
1912	18,093,957	4,970,893	9,238,780	32,303,630
1913	18,107,138	4,804,041	9,439,484	32,350,663
1914 *	9,611,134	2,493,575	4,572,627	16,677,336
1915 †	15,367,746	4,571,885	7,383,612	27,323,243
1916 †	15,608,510	6,434,638	11,336,550	33,379,698

* Six months ended 30th June.

† Twelve months ended 30th June.

Stated as proportions per cent. of the total imports the following results are obtained :—

Period.	British Empire.			Foreign Countries.
	United Kingdom.	Other British Countries.	Total.	
	per cent.	per cent.	per cent.	per cent.
1880-84	74·59	10·86	85·45	14·55
1885-89	71·55	12·05	83·60	16·40
1890-94	70·65	11·88	82·53	17·47
1895-99	60·69	12·71	73·40	26·60
1900-04	55·93	13·16	69·09	30·91
1905-09	59·05	16·47	75·52	24·48
1910	61·90	13·92	75·82	24·18
1911	57·56	15·67	73·23	26·77
1912	56·01	15·39	71·40	28·60
1913	55·97	14·85	70·82	29·18
1914*	57·63	14·95	72·58	27·42
1915†	56·25	16·73	72·98	27·02
1916†	46·76	19·28	66·04	33·96

* Six months ended 30th June. † Twelve months ended 30th June.

The oversea exports from New South Wales are shown under the same heads and for the same periods as in the preceding tables, and exhibit changes similar to those in the imports :—

Period.	Exports to—			Total Exports.
	British Empire.		Foreign Countries.	
	United Kingdom.	Other British Countries.		
	£	£	£	£
1880-84	39,964,529	5,449,726	5,925,747	51,340,002
1885-89	37,727,437	4,508,809	10,885,370	53,121,616
1890-94	39,358,695	4,742,725	21,592,966	65,694,386
1895-99	43,203,489	6,137,642	35,585,823	84,926,954
1900-04	40,732,026	14,441,877	39,224,800	94,398,703
1905-09	57,950,739	18,737,850	64,636,404	141,324,993
1910	13,318,099	3,081,387	15,635,965	32,035,451
1911	12,261,971	5,830,179	14,069,251	32,161,401
1912	10,316,918	6,096,078	16,545,533	32,958,529
1913	11,904,424	3,761,634	17,173,731	32,839,789
1914*	5,897,486	2,380,711	7,460,116	15,738,313
1915†	16,258,252	4,580,536	7,268,237	28,107,025
1916†	15,320,054	5,076,785	20,578,577	40,975,416

* Six months ended 30th June. † Twelve months ended 30th June.

The proportions per cent. of the total exports are as follow :—

Period.	British Empire.			Foreign Countries.
	United Kingdom.	Other British Countries.	Total.	
	per cent.	per cent.	per cent.	per cent.
1880-84	77·84	10·62	88·46	11·54
1885-89	71·02	8·49	79·51	20·49
1890-94	59·91	7·22	67·13	32·87
1895-99	50·87	7·23	58·10	41·90
1900-04	43·15	15·30	58·45	41·55
1905-09	41·00	13·26	54·26	45·74
1910	41·57	9·62	51·19	48·81
1911	38·12	18·13	56·25	43·75
1912	31·30	18·50	49·80	50·20
1913	36·25	11·45	47·70	52·30
1914*	37·47	15·13	52·60	47·40
1915†	57·84	16·30	74·14	25·86
1916†	37·39	12·39	49·78	50·22

* Six months ended 30th June. † Twelve months ended 30th June.

Both absolutely and relatively the exports to foreign countries increased continuously until the commencement of the war, so that the proportion of goods sent to the United Kingdom became considerably less than to foreign countries. Direct communication with the various countries was largely the cause of this apparent diversion of trade, as it obviated the necessity for much transshipment, so that even gold was shipped to different countries on account of the United Kingdom. In the year ended 30th June, 1915, the direction of the trade changed again, the percentage of exports sent to the United Kingdom being 57·8 as compared with 37·5 in the previous six months. In the following year a large shipment of gold to the United States caused an increase in the proportion of exports to foreign countries.

The exports to British Possessions show remarkable fluctuations throughout the period, mainly on account of the variations in the shipments of gold and silver to India and Ceylon.

Taken absolutely, the total trade between New South Wales and foreign countries has increased rapidly year by year; but, relatively to the total trade of New South Wales, the increase has been more gradual, especially since 1895, when the trade with foreign countries was 35·5 per cent. of the total as compared with 40·8 per cent. in 1913. In consequence of the war the percentage decreased to 26·4 during the year ended 30th June, 1915, but rose in the following year to 42·9 :—

Period.	Oversea Trade.			Proportion.	
	With British Countries.	With Foreign Countries.	Total.	British.	Foreign.
	£	£	£	per cent.	per cent.
1880-4	101,233,460	15,428,593	116,662,053	86·78	13·22
1885-9	98,650,074	21,948,595	120,598,669	81·80	18·20
1890-4	92,338,766	31,801,163	124,139,929	74·38	25·62
1895-9	94,239,793	51,857,686	146,097,479	64·50	35·50
1900-4	108,439,433	63,052,777	171,492,210	63·23	36·77
1905-9	147,423,307	87,567,208	234,990,515	62·74	37·26
1910	34,025,477	21,248,967	55,274,444	61·56	38·44
1911	38,117,232	21,387,597	59,504,829	64·06	35·94
1912	39,477,846	25,784,313	65,262,159	60·49	39·51
1913	38,577,237	26,613,215	65,190,452	59·18	40·82
1914*	20,382,906	12,032,743	32,415,649	62·88	37·12
1915†	40,778,419	14,651,849	55,430,268	73·57	26·43
1916†	42,439,987	31,015,127	74,355,114	57·08	42·92

* Half-year ended 30th June.

† Year ended 30th June.

ARTICLES OF IMPORT.

To show concisely the class of goods imported into New South Wales, oversea imports during the years 1913-16 have been summarised, as shown in the table below. The figures represent direct imports only, as the interstate transfers are not available.

Articles of Import.	1913.	1914-15.*	1915-16.*
Food, Drink, Narcotics, and Stimulants—	£	£	£
Animal food	342,101	393,069	778,729
Vegetable food	1,622,239	1,575,604	4,219,287
Drinks—alcoholic	927,644	813,471	721,093
„ non-alcoholic	10,591	12,532	10,146
Tobacco and other narcotics	609,570	514,525	658,075
Other stimulants and condiments	667,045	766,648	973,895
	4,179,190	4,075,849	7,361,225
Live Animals and Plants—			
Animals of all kinds	86,131	86,719	95,189
Plants	36,420	40,416	40,355
	122,551	127,135	135,544
Textile Fabrics, Dress, and Manufactured			
Fibrous Materials—			
Silk manufactures	409,299	648,807	706,967
Woollen manufactures	1,076,794	964,349	1,462,028
Cotton and flax manufactures	1,946,441	1,769,259	2,293,321
Manufactures of mixed materials	1,444,746	1,246,508	1,435,941
Dress	2,336,365	1,994,784	2,087,305
Manufactures of fibrous materials	883,972	905,483	929,403
	8,097,617	7,529,190	8,914,965
Products of Arts and Manufactures, n.e.i.—			
Books, stationery and paper	1,309,311	1,100,472	1,241,599
Musical instruments	223,690	146,793	176,194
Works of art and art materials	35,091	24,415	29,841
Fancy goods	476,155	369,337	421,658
Timepieces, jewellery, and plated ware	461,080	366,687	399,920
Surgical and scientific instruments	486,403	377,943	439,698
Machines, tools, and implements	5,457,584	4,632,738	3,739,410
Harness, vehicles, and equipment	1,011,324	686,828	995,892
Ships, boats, and equipment	253,017	92,183	80,739
Building materials	1,571,009	1,322,845	1,094,229
Furniture	279,782	142,927	89,454
Arms and explosives	398,354	285,105	241,332
Drugs, chemicals, and by-products	651,055	688,023	906,446
Glass and earthenware manufactures	473,914	380,303	412,524
Soap, candles, and paint	368,796	349,313	334,476
Other manufactures, n.e.i.	1,104,307	801,898	1,300,696
	14,500,872	11,767,810	11,904,108
Staple Animal and Vegetable Substances, including Mineral Oils—			
Animal substances	514,610	431,318	615,346
Vegetable substances	393,808	569,582	764,322
Oils	758,527	798,038	1,075,787
	1,666,945	1,798,938	2,455,455
Staple Minerals and Metals, including Specie and Bullion—			
Specie and bullion	1,093,273	427,193	496,405
Iron and steel	1,642,703	1,008,082	1,339,548
Other metals	543,396	382,449	504,361
Coal and shale	84	15,748	5,094
Stone, clay, and other minerals	93,000	82,329	113,816
	3,372,456	1,915,801	2,459,224
Indefinite articles	411,032	108,520	149,177
Total Imports	£ 32,350,663	27,323,243	33,379,698

* Year ended 30th June.

In 1915-16 the principal articles imported from abroad were those in the class comprising the products of arts and manufactures. By far the largest item in this class was machines, tools and implements; then followed books, stationery, and paper; building materials; harness, vehicles, and equipment; drugs and chemicals; surgical and scientific instruments, fancy goods, glass and earthenware manufactures. The class next in importance comprised textile fabrics and dress, in which the most important items were cotton and flax, dress, woollen manufactures, and manufactures of mixed materials. The class including articles of food and drink came third, the largest item being vegetable food.

BRITISH PRODUCE IMPORTED.

As the previous tables show, direct trade with the United Kingdom is not advancing relatively to the total trade, yet nearly 47 per cent. of New South Wales imports are shipped from the United Kingdom, where 41 per cent. of the State's imports are manufactured or produced.

The total value of the produce of the United Kingdom imported into the State during the year ending 30th June, 1916, was £13,629,280. A classification of the principal articles is given below:—

Article.	Value.	Article.	Value.
	£		£
Acids	61,910	Instruments	226,704
Ale and beer	82,654	Iron and steel	1,110,139
Alkalies	87,975	Jewellery	81,526
Apparel and attire, n.e.i. ...	843,197	Lamps and lampware ...	40,819
Arms, ammunition, and explosives	65,359	Machines and machinery ...	722,723
Bags and purses, &c.	42,116	Matches and vestas	46,881
Books	191,608	Medicines	100,544
Boots and shoes	123,834	Metals	35,339
Brushware	34,602	Metal manufactures	938,388
Canvas and duck	170,157	Oilmen's stores	113,048
Carpets and carpeting	144,374	Oils	113,636
Cocoa and chocolate, &c. ...	140,551	Paints and colours	187,226
Confectionery	53,076	Paper	348,957
Copper	91,568	Photographic materials ...	36,102
Cordage and Twines—		Pickles, sauces, &c.	44,096
Metal	69,052	Piece goods	3,302,616
Sewing silks, &c.	178,068	Quilts, table covers, sheets, &c.	114,064
Other	56,907	Rails, &c., for railways	29,711
Cutlery	112,956	Rubber and rubber manufactures	99,106
Drugs and chemicals	120,701	Spirits	430,542
Earthenware, &c.	99,995	Stationery	92,447
Electrical articles and materials	210,547	Stone, marble, slate	31,469
Fancy goods	72,241	Tin plates and sheets	296,904
Fish (all kinds)	64,082	Tobacco, &c.	46,224
Floor cloths and linoleum ...	166,847	Tools of trade	111,658
Gelatine and glue	32,735	Trimmings and ornaments ...	33,737
Glass and glassware	72,414	Vehicles	231,716
Hats and caps	88,190	Yarns	171,819

The imports oversea from other British Possessions, classified according to country of origin, are shown below for the years 1912-16 :—

Country.	1912.	1913.	1915.*	1916.*
	£	£	£	£
Canada	386,485	359,022	612,796	629,527
Ceylon	389,253	419,395	425,578	514,501
Fiji	215,062	388,653	242,056	592,325
Gilbert Islands ... ..	.....	.....	13,443	25,252
Hong Kong... ..	2,846	5,504	1,927	5,630
India (incl. Burma) ..	920,334	1,221,849	1,262,091	1,521,452
New Zealand	1,839,004	1,457,335	984,401	1,581,567
Ocean Island	29,752	16,208	19,161	43,292
Papua	69,630	78,610	54,828	58,680
Solomon Islands ... ..	.....	.....	80,139	76,047
Straits Settlements ...	54,586	58,778	50,329	66,078
Union of South Africa ...	339,994	196,206	166,793	522,564
West Indies	32,352	47,025	26,421	23,626
Other British Possessions...	13,344	16,831	28,245	32,865
Total	£ 4,292,642	4,265,416	3,968,208	5,693,406

* Year ended 30th June.

There has been a considerable extension of the trade between New South Wales and New Zealand, both as to imports and exports. The value of imports fluctuates with the character of the season—a bad year in New South Wales being always attended with large importations of New Zealand oats and other produce.

Commercially, Hong Kong is a port of China, and a considerable portion of the Chinese trade with New South Wales is transacted *via* that port. The Indian trade has grown up almost entirely since 1880, but fluctuates largely owing to the variable exports of gold specie. The Fiji trade is valuable, and shows a remarkable increase.

The principal products of these countries imported into New South Wales during 1915-16, were as follows :—

New Zealand :—Gold bullion, £458,035; timber, £263,259; wool, £151,460; potatoes, £133,839; hay and chaff, £117,702; skins and hides, £76,070; meats, £45,518; flax fibre, £44,401.

India :—Bags and sacks, £753,219; rice, £200,722; hessian and other jute goods, £144,297; tea, £143,445; linseed, £100,707.

Ceylon :—Tea, £486,745.

Canada :—Printing paper, £181,134; chassis for motor cars, &c., £94,469; machines and machinery, £74,555; metal manufactures, £44,711.

Fiji :—Sugar, £425,959; bananas, £106,963; copra, £32,016.

South African Union :—Maize, £326,890; precious stones, £126,010; explosives, £37,685.

Papua :—Gold bullion, £29,454.

Solomon Islands :—Copra, £62,180.

Gilbert Islands :—Copra, £25,251.

Ocean Island :—Rock phosphates, £43,027.

Straits Settlements :—Sago and tapioca, £27,890; spices, £20,874.

FOREIGN PRODUCE IMPORTED.

The aggregate values of foreign imports, classified according to country of origin, are shown below for the years 1912-16 :—

Country.	1912.	1913.	1914-15.	1915-16.
	£	£	£	£
Arabia	20,286	29,865	6,493	14,100
Argentine Republic	385	2,844	93,911	162,486
Austria-Hungary	171,715	153,472	59,069	3,439
Belgium	365,666	456,503	125,930	36,450
Bismarek Archipelago ... ..	.....	1,398	27,266	80,037
Borneo (Dutch)	27,950	43,189	78,996	45,942
Brazil	23,060	9,843	6,537	15,240
Chile	21,752	14,905	19,581	94,652
China	209,215	194,680	197,224	323,108
Cuba	32,270	23,529	25,728	26,009
Denmark	14,190	14,789	16,596	37,139
France	866,627	894,186	720,165	733,824
Germany	2,850,139	2,834,038	812,608	65,230
Italy	271,754	243,134	245,567	428,458
Japan	479,144	467,666	667,436	1,270,955
Java	682,897	253,157	373,555	450,289
Netherlands	156,746	149,599	122,350	160,466
New Caledonia	26,986	28,045	34,931	41,146
New Hebrides	23,175	23,858	19,843	31,174
Norway	249,637	254,019	219,531	243,460
Peru	1,699	1,323	2,025	349,592
Philippine Islands	43,613	56,325	41,680	72,696
Pleasant Island ... ..	.....	11,284	20,264	28,820
Portugal	41,603	29,828	17,163	20,330
Russia	33,225	35,212	36,774	16,650
Samoa (German) ... ..	.....	.....	41,732	42,924
Spain	40,913	40,197	36,179	60,173
Sumatra	132,517	80,713	130,792	205,433
Sweden	266,859	344,833	235,926	218,550
Switzerland	482,786	469,858	459,909	603,117
Tonga ... ..	.....	.....	67,013	23,190
Turkey	15,202	26,032	6,039	2,103
United States of America	4,833,042	5,329,850	5,239,010	7,977,918
Other Foreign Countries	262,471	185,753	84,145	145,840
Total	12,641,524	12,697,927	10,291,968	14,024,940

As a result of the war there were considerable increases in the imports from the United States and Japan during 1915-16, and large supplies of grain and sugar were obtained from South America to supplement local supplies which were deficient on account of the drought, viz.:—From the Argentine Republic, wheat, £156,437; from Chile, oats, £75,206; and from Peru, sugar, £348,984.

Other important items of foreign produce imported during 1915-16, were as follows:—

France—Silk piece goods, £150,538; cream of tartar, £85,165; trimmings and ornaments, £55,472; spirits, £46,494.

Italy—Cream of tartar, £56,806; chassis for motor cars, &c., £45,324; silk piece goods, £42,009.

Netherlands—Gin, £47,634.

Norway—Paper, £67,243; fish, £50,544.

Sweden—Paper, £113,257.

Switzerland—Piece goods—velvet, velveteens, &c., £108,578; silk £106,893; watches, chronometers, &c., £93,824; trimmings and ornaments, £89,994; apparel and attire, £54,096; cocoa and chocolate, £50,261.

Japan—Sugar, £148,000; oils, £76,372; apparel and attire, £68,170; hats and caps, £66,242; timber, £54,542; glass and glassware, £49,397.

China—Tea, £78,264.

Java—Tea, £200,965; maize, £88,332; sugar, £81,927; kapok, £66,203.

Sumatra—Benzine, £193,825.

Dutch Borneo—Residual oil, £31,799.

Bismarck Archipelago—Copra, £68,190.

United States—Machines and machinery, £810,366; grain—wheat, £652,283; oats, £171,197; tobacco, £557,855; vehicles and parts, £537,198; metal manufactures, £526,662; timber, £505,234; rubber and rubber manufactures, £334,255; apparel and attire, £301,590; instruments, £263,994; iron and steel, £205,153; oils—kerosene and other petroleum, £196,423; lubricating (mineral), £139,482; benzine, £71,290; benzoline, gasoline and naphtha, £83,444; preserved fish, £191,611; fruit and vegetables, £143,282; arms and explosives, £135,307; paper, £126,882; cotton and linen piece goods, £122,996; leather, £103,600; drugs and chemicals, £90,036; medicines, £89,513; glass and glassware, £83,154; lard, &c., £71,733; butter, £63,024; turpentine, £49,177; paints and colours, £48,830.

ARTICLES OF EXPORT.

Exports from New South Wales consist chiefly of goods produced or manufactured in the State. Re-exports include produce of other Australian States, and produce of other countries.

A classification of the total exports to oversea countries during the years 1913-16 is shown below :—

Articles of Export.	1913.	1914-15.	1915 16.*
Food, Drink, Narcotics, and Stimulants—	£	£	£
Animal food	3,637,225	4,843,488	1,688,020
Vegetable food	3,553,791	1,418,929	3,841,622
Drinks—alcoholic	64,264	114,531	132,891
„ non-alcoholic	3,778	6,019	5,868
Tobacco and other narcotics	56,504	72,893	114,251
Other stimulants and condiments	35,687	61,193	77,295
	7,351,249	6,517,053	5,859,947
Live Animals and Plants—			
Animals of all kinds	78,832	36,040	130,215
Plants	27,594	19,068	17,988
	106,426	55,108	148,203
Textile Fabrics, Dress, and Manufactured			
Fibrous Materials—			
Silk manufactures	7,059	6,447	12,519
Woollen manufactures	16,179	22,741	22,345
Cotton and flax manufactures	44,091	58,496	89,849
Manufactures of mixed materials	34,915	34,265	47,471
Dress	81,899	103,131	167,772
Manufactures of fibrous materials	17,716	36,053	25,245
	201,859	261,133	365,201
Products of Art and Manufactures, n.e.i.—			
Books, stationery, and paper	71,787	69,180	68,114
Musical instruments	6,817	3,616	2,999
Works of art and art materials	5,947	5,543	1,631
Fancy goods	24,463	24,195	23,775
Timepieces, jewellery, and plated-ware	46,171	17,472	25,071
Surgical and scientific instruments	61,058	63,227	74,451
Machines, tools, and implements	252,298	234,477	329,956
Harness, vehicles, and equipment	58,934	68,017	52,974
Ships, boats, and equipment	85,486	121,050	153,004
Building materials	274,650	220,518	182,623
Furniture	35,152	48,288	29,995
Arms and explosives	7,032	7,435	8,007
Drugs, chemicals, and by-products	108,254	142,613	231,030
Glass and earthenware manufactures	14,119	16,916	28,313
Soap, candles, and paint	60,148	57,783	71,769
Other manufactures, n.e.i.	95,235	75,001	105,890
	1,207,551	1,175,331	1,389,602
Staple Animal and Vegetable Substances, in- cluding Mineral Oils—			
Animal substances	15,541,809	13,485,510	16,156,364
Vegetable substances	31,245	29,675	105,137
Oils	146,933	237,768	245,730
	15,719,987	13,752,953	16,507,231
Staple Minerals and Metals, including Specie and Bullion—			
Specie and bullion	1,700,136	1,604,755	9,656,085
Iron and steel	47,811	38,534	51,941
Other metals	4,072,390	3,469,594	5,801,907
Coal and shale	1,129,446	735,946	535,549
Stone, clay, and other minerals	1,251,837	421,233	592,044
	8,201,620	6,270,062	16,637,526
Indefinite articles	51,097	75,385	67,706
Total Exports	32,839,789	28,107,025	40,975,416

* Year ended 30th June.

The principal articles of export during the year ended 30th June, 1916, consisted of staple animal substances, specie and bullion, metals and vegetable and animal food.

EXPORTS OF AUSTRALIAN PRODUCE.

During the year 1915-16 the exports of Australian produce represented 94·3 per cent., and other produce 5·7 per cent. of the total exports. The following statement shows, for each of the years, 1906-1911, the values of oversea exports under the three heads of "New South Wales produce," "Produce of other Australian States," and of "Other countries." Subsequently the produce of New South Wales and the other Australian States is combined, to show the "Australian" produce :—

Year.	New South Wales Produce.	Produce of Other Australian States.	Produce of Other Countries.	Total.	Percentage of total.	
					Australian.	Other.
	£	£	£	£		
1906	20,642,867	7,749,852	2,594,169	30,986,888	93·3	6·7
1907	25,231,804	5,458,953	2,203,316	32,894,073	93·5	6·5
1908	21,602,424	3,537,814	1,740,471	26,880,709	93·7	6·3
1909	21,771,580	2,644,381	1,628,828	26,044,789	94·7	5·3
1910	27,677,088	2,660,263	1,698,100	32,035,451	93·1	6·9
1911	27,491,326	2,447,089	2,222,986	32,161,401	93·0	7·0
1912	30,661,028		2,297,501	32,958,529	94·8	5·2
1913	31,135,169		1,704,620	32,839,789		
1914-1915	26,176,233		1,930,792	28,107,025	93·1	6·9
1915-1916	38,656,163		2,319,253	40,975,416	94·3	5·7

The countries to which Australian produce was exported during the years 1912-16, may be seen in the following table. The effect of war conditions is noticeable in the large decreases in the values of products sent to the European countries, except the United Kingdom and Italy; on the other hand the values of produce sent to the United States increased from £1,804,710 in 1913, to £12,663,460 in 1915-16, and to Japan, from £1,106,860 to £2,320,383 :—

Country.	1912.	1913.	1914-15.	1915-16.
	£	£	£	£
United Kingdom	10,095,088	11,665,426	15,886,700	15,102,133
Canada	153,200	144,093	305,607	621,881
Ceylon	1,725,340	103,834	55,887	82,115
Egypt	See Foreign countries		58,828	126,355
Fiji	209,618	214,688	221,493	159,244
Hong Kong	446,885	332,957	269,155	221,638
India	367,301	193,271	291,344	481,521
Malta	10,356	28,421	12,920	40,440
New Zealand	856,566	838,705	1,104,449	1,765,303
Papua	46,872	41,936	38,823	43,438
Solomon Islands ... ..	.....	.....	41,212	38,094
South African Customs Union	203,487	327,304	725,453	121,494
Straits Settlements	383,141	465,086	208,814	260,454
Other British Possessions	25,075	19,982	45,652	58,071
Total, British	14,522,929	14,375,613	19,266,337	19,122,181

Country.	1912.	1913.	1914-15.	1915-16.
	£	£	£	£
Austria-Hungary	204,730	339,539	791	.....
Belgium	3,051,594	2,761,299	202,972	420
Bismarck Archipelago	36,059	38,043	54,482	65,348
Canary Islands	52,373	146,811	.....	.....
Chile	464,342	369,929	225,117	114,194
China	102,765	108,523	48,518	46,037
Egypt	11,988	48,086	See British countries.	
France	4,029,426	4,642,086	607,722	1,308,730
Germany	4,224,498	3,639,468	148,545	.....
Hawaiian Islands	76,215	107,424	114,631	41,533
Italy	325,057	509,027	570,464	1,932,414
Japan	961,721	1,106,860	1,564,140	2,320,383
Java	228,946	349,319	162,508	179,169
Netherlands	62,742	99,206	27,115	.....
New Caledonia	82,528	78,715	94,844	121,508
New Hebrides	40,616	35,132	19,089	20,524
Peru	56,168	29,614	69,173	50,081
Philippine Islands	217,657	187,948	101,768	50,591
Russia	96,815	47,036	113,817	476,362
Spain	1,756	42,102	.....	75,037
United States	1,535,387	1,804,710	2,667,042	12,663,400
Other Foreign countries	274,716	268,679	117,158	68,191
Total, Foreign	16,138,099	16,759,516	6,909,896	19,533,982
Total, all countries	30,661,028	31,135,169	26,176,233	38,656,163

The principal articles of Australian production exported to various countries from New South Wales in the year ended 30th June, 1916, were as follows :—

United Kingdom—Wool, £5,099,164; copper—ingots, £2,266,294, in matte, £130,649; wheat, £1,837,286; flour, £212,718; lead—in matte, £767,627, pig, £818,607; meats—frozen mutton, £499,874, rabbits and hares, £606,425, other, £123,049; leather, £423,190; skins and hides, £353,000; bullion—gold, £171,006, silver, £339,856; tin ingots, £250,920; butter, £173,752; coconut oil, £148,625; ores—copper, £45,192, molybdenite, £43,566, wolfram, £156,733; tallow, £102,251; jams and jellies, £90,638; zinc, £68,585.

New Zealand—Gold specie, £838,666; coal, £171,912; timber, £121,016; manures, £76,241.

India—Copper ingots, £197,085; horses, £103,180; meats, £33,314; pig lead, £30,808.

Hong Kong—Pig lead, £162,403.

Straits Settlements—Tin ore, £151,278.

South Africa—Leather, £39,371.

Canada—Gold specie, £459,000; skins and hides, £141,397.

France—Wool, £529,271; wheat, £207,489; flour, £79,506; skins and hides, £164,669; copper ingots, £123,446, in matte, £66,792; tallow, £68,437.

Italy—Wool, £1,271,713; wheat, £522,162; skins and hides, £73,201.

Russia—Copper ingots, £313,685; pig lead, £81,589.

Japan—Wool, £1,885,264; lead, £206,261; gold specie, £136,945.

United States—Gold specie, £7,087,594; wool, £4,869,624; skins and hides, £556,576.

Chile—Coal, £111,178.

Java—Coal, £50,727.

RE-EXPORT TRADE.

The shipping facilities of Sydney formerly attracted to the port a large amount of trade from New Zealand, Queensland, and the South Seas, for transhipment to Europe; but the establishment of direct communication between these countries and Europe checked to some extent the expansion of the re-export trade.

Gold, consisting mainly of Queensland and New Zealand metal, coined at the Sydney branch of the Royal Mint, and shipped by the banks to London, the United States of America, and Eastern Asia forms a large proportion of the trade. There is also a large re-export of wool, chiefly the produce of Queensland, and a fairly large trade in provisions and manufactured articles of British and foreign production with New Zealand, New Caledonia, Fiji, and other islands of the Pacific.

The returns do not disclose the value of the produce of the other Australian States, but the value of the other produce re-exported during the year ended 30th June, 1916, was £2,319,253. The principal items were specie £535,043, wool £188,070, vessels £134,000, piece goods £121,375, rice £103,625, metal manufactures £93,805, tobacco £68,824, instruments £64,574, machines and machinery £62,835, oils £62,383, copra £61,613, tea £56,581, and spirits £51,936.

SHIPS' STORES.

In addition to the values of oversea exports shown already, considerable quantities of goods are sent away from New South Wales each year in the form of ships' stores. The following statement shows the aggregate values of ships' stores exported during the last five years, classified as Australian produce, and other produce, being really re-exports:—

Year.	Value of Ships' Stores.		
	Australian Produce.	Other Produce.	Total.
	£	£	£
1911	839,700	76,547	916,247
1912	996,048	85,285	1,081,333
1913	1,009,361	83,181	1,092,542
1914-15	1,045,751	133,274	1,179,025
1915-16	867,193	143,401	1,010,594

Following are details of the most important items for 1916 of this Australian produce:—

	Quantity.	Value.
Bunker coal tons	695,625	414,945
Meats ... ..	.....	220,077
Butter lb.	564,086	33,390
Flour cwt.	35,961	25,793
Potatoes	44,044	25,076
Fish, fresh lb.	478,571	12,603
Milk, preserved lb.	646,675	13,429
Jams and jellies lb.	575,953	10,586

STOCKS IN BOND.

The following is a list showing the stocks of principal articles in bond in New South Wales on 30th June of the years 1914-16 :—

Article.	1914.	1915.	1916.
Stimulants—			
Ale and beer gal.	41,087	153,959 *	111,256
Spirits—			
Brandy "	81,407	88,298	75,964
Gin and geneva "	51,337	34,857	25,303
Liqueurs and cordials "	4,167	3,508	3,928
Rum "	207,045	138,946	196,918
Schnapps "	33,295	48,266	6,070
Whisky "	334,621	340,516	321,829
White spirits "	768	6,510	60
Other "	2,750	4,062	1,372
Distilled in Commonwealth "	206,523	169,686	159,088
Wine—			
Sparkling "	14,418	5,846	6,117
Still "	26,237	16,262	21,961
Narcotics—			
Tobacco—			
Manufactured lb.	380,415	254,358	181,690
Unmanufactured "	7,729,928	646,046	799,011
Cigars "	21,833	29,335	24,908
Cigarettes "	18,816	23,330	33,509
Sugar—			
Raw and refined cwt.	491,401	115,524	113,437
Glucose "	1,680	1,437	1,686
* Other articles—			
Candles lb.	24,170	26,625	229,500
Cement cwt.	36,736	300	16,661
Cocoa and chocolate lb.	152,546	75,653	99,313
Coffee, raw "	338,763	276,211	341,643
Coffee, essence and prepared "	21,040	3,323	7,370
Fruits, dried—			
Currants "	13,259	1,255	60,831
Raisins "	24,920	10,929	4,988
Dates "	822,088	162,645	560,446
Other "	106,360	169,810	109,509
Rice cntl.	244,827	117,116	133,080
Maize ... .. "	.....	3,450	.....
Oats "	300	.....	.....
Hops lb.	45,489	61,520	44,630
Iron, galvanised cwt.	2,420	2,410	2,410
Matches gross boxes	30,056	7,623	102,235
Milk lb.	14,496	25,632	66,006
Salt cwt.	10,614	11,885	34,810
Salt, rock "	126	300	259
Vinegar gal.	21,396	6,006	13,127

COMMERCIAL COMMISSIONERS.

In Eastern Asia.

New South Wales is represented in Eastern Asia by a Commercial Commissioner, with headquarters at Kobe, Japan. The Commissioner is engaged in fostering the trade of the State in the important markets of eastern countries, and makes periodical tours of Japan, China, India, Philippine Islands, Netherlands India, and other portions of the East, closely watching for new opportunities for trade as well as taking steps to ensure the maintenance of the existing trade.

Reports are furnished by the Commissioner, giving in much detail the market prices, &c., for each commodity exported from New South Wales and valuable advice to shippers and to the commercial community.

In addition to the valuable assistance given to commerce the Commissioner does useful work in diverting the stream of tourists in the East towards Australia.

In America and Canada.

During 1911, preliminary inquiries were made as to the possibility of improving the trade relations with the United States of America, and Canada, and as to the advantage of establishing a Trade Commissioner's Office on the West Coast of America. These inquiries disclosed a very desirable market for all pastoral primary products, and a considerable number of agricultural primary products, for hardwood timber, coal, cocoanut oil, for some fruits in all seasons, and for all fruits in the off season in America, and for such vegetables as onions and potatoes.

New South Wales in 1916 was represented in the United States and Canada by a Trade Commissioner.

CHAMBERS OF COMMERCE.

Chambers of Commerce have been formed in New South Wales at sixteen important trading centres, including Sydney, Newcastle, Parramatta, Lismore, and Grafton. The membership of the Sydney Chamber of Commerce as at June, 1916, was 1,187, including 119 firms and public companies.

PUBLIC FINANCE

SYSTEM OF REVENUE AND EXPENDITURE ACCOUNTS.

The following table shows the revenue and expenditure of the State during the last ten years. The figures include advances made and repaid, and transfers in aid of the Public Works and Closer Settlement Funds:—

Year ended 30th June.	Revenue.	Expenditure.	Excess of Revenue over Expenditure.	Excess of Expenditure over Revenue.
	£	£	£	£
1907	13,406,543	12,831,323	575,220	..... ..
1908	13,995,865	13,790,285	205,580	.....
1909	13,687,275	14,726,521	.....	1,039,246
1910	14,582,415	14,230,386	352,029	.....
1911	13,882,485	14,470,687	... ..	588,202
1912	15,797,136	16,137,279	.....	340,143
1913	16,260,456	17,488,836	.....	1,228,380
1914	18,438,229	18,065,190	373,039	.....
1915	18,946,227	18,516,179	430,048	.....
1916	19,703,518	19,553,927	149,591	.....

The total receipts for the ten years amounted to £158,700,149 and the expenditure to £159,810,613, the deficiency for the period being £1,110,460. The credit balance of the Consolidated Revenue Fund on the 30th June, 1906, was £896,124, so that the transactions during the period under review resulted in a net debit of £214,340.

• GENERAL ACCOUNT.

The following table indicates each of the main accounts under which the Government conducts its financial business, the subsidiary accounts being included under one or other of the headings enumerated. The Audit Act provides that the Treasurer may agree with any bank for the transaction of the general banking business of the State. The accounts are kept under several headings, viz., Consolidated Revenue Account, General Loan Account, Special Accounts (Colonial Treasurer's Supreme Court Moneys), Special Deposits Account, Closer Settlement Account, Public Works Account, Railways Loan Account, and a number of suspense accounts, which are specified in the table. All moneys paid into any of the accounts mentioned are deemed to be "public moneys," and for

interest purposes the several accounts are treated as one account. The Special Accounts, which consist of "Supreme Court Moneys," are not controlled by the Audit Act, as they are operated on directly by the officers in charge of the departments interested. The position of the main divisions of the General Account on 30th June, 1916, will be found below:—

Head of Account.	Ledger Balances on 30th June, 1916.		
	Invested in Securities.	Credit Cash Balances.	Total.
Special Deposits Account—	£	£	£
Government Savings Bank Deposits Account .. ..	....	3,112,514	3,112,514
" " Advances Deposit Account .. ..	....	190,000	190,000
State Debt Commissioners' Trust Accounts .. ..	....	125,018	125,018
" " Deposit Account .. ..	....	78,862	78,862
Fixed Deposits Account .. ..	....	328,660	328,660
Sydney Municipal Council Sinking Funds .. ..	....	183,591	183,591
Industrial Undertakings .. ..	....	101,608	101,608
Railway Store Advance Account .. ..	....	243,690	243,690
Other	62,307	828 020	590,327
Total	£ 62,307	5,191,963	5,254,270
Railways Loan Account .. ..	....	1,388,893	1,388,893
Closer Settlement Account .. ..	....	75,122	75,122
Public Works Account .. ..	....	209,410	209,410
Special Accounts—Colonial Treasurer's Supreme Court Moneys	....	347,201	347,201
London Remittance Account .. ..	....	1,089,923	1,089,923
Total Cr. £	62,307	8,302,512	8,364,819
Less Debit Balances—	£		
Consolidated Revenue Account 214,340			
General Loan Account 4,234,205			
Loans Expenditure Suspense Account .. 122,246			
Public Works Expenditure Suspense Account 95,376			
Seed Wheat and Fodder Expenditure Suspense Account 270,217			
Imported Wheat Suspense Account 4,542	....	5,616,065	5,616,065
Imported Fodder Suspense Account 49,814			
Imported Butter Suspense Account 8,761			
Wheat Grown on Excess Area Suspense Account 355,667			
Storage of Butter Account 60,897			
Total Credit Balance in Sydney	62,307	2,686,447	2,748,754
Deduct—London Bank Account Dr.	....	1,089,923	1,089,923
Total	£ 62,307	1,596,524	1,658,831

DISTRIBUTION OF CASH BALANCE.

The distribution of the cash balance on 30th June, 1916, is set forth in the following table, the London accounts being shown to the latest date available before the closing of the Public Accounts for the financial year:—

	£	£	£
Special Deposits Account—Bank of New South Wales ..	2,986,135		
" " " Commercial Banking Company of Sydney (Ltd.) ..	2,205,328	5,191,963	
Closer Settlement Account—Commercial Banking Com- pany of Sydney (Ltd.) ..	....	75,122	
Public Works Account—Bank of New South Wales ..	....	209,410	
Special Accounts—Bank of New South Wales ..	....	347,201	
Railways Loan Account—Bank of New South Wales ..	702,795		
" " " Commercial Banking Company of Sydney (Ltd.) ..	686,098	1,388,893	
London Remittances Account—Bank of New South Wales	570,213		
" " " Commercial Banking Com- pany of Sydney (Ltd.) ..	519,710	1,089,923	
Less Debit Balances—			8,302,512
Consolidated Revenue Account—Bank of New South Wales ..	296,587		
" " " Commercial Banking Company of Sydney (Ltd.) .. Cr.	57,247		
" " " " Cash in hands of Receiver Cr.	25,000	214,340	
General Loan Account—Bank of New South Wales ..	2,274,766		
" " " Commercial Banking Company of Sydney (Ltd.) ..	1,959,439	4,234,205	
Loans Expenditure Suspense Account—Bank of New South Wales ..	80,975		
" " " " Commercial Bank- ing Company of Sydney (Ltd.) ..	41,271	122,246	
Public Works Expenditure Suspense Account— Bank of New South Wales ..	....	95,376	
Imported Wheat Suspense Account—Bank of New South Wales ..	3,822		
" " " Commercial Banking Company of Sydney (Ltd.) ..	720	4,542	
Seed Wheat and Fodder Expenditure Suspense Account— Bank of New South Wales ..	137,671		
" " " Commercial Banking Com- pany of Sydney (Ltd.) ..	132,546	270,217	
Imported Fodder Suspense Account—Bank of New South Wales ..	20,720		
" " " Commercial Bank- ing Company of Sydney (Ltd.) ..	29,094	49,814	
Imported Butter Suspense Account—Bank of New South Wales ..	4,000		
" " " Commercial Banking Company of Syd- ney (Ltd.) ..	4,761	8,761	
Storage of Butter Account—Bank of New South Wales ..	....	60,897	
Wheat grown on Excess Area Suspense Account— Bank of New South Wales ..	290,667		
" " " Commercial Banking Com- pany of Sydney (Ltd.) ..	265,000	555,667	
Total Dr.			5,618,065
Total Cash in Sydney .. .. .	....	....	2,686,447
Deduct Debit Balances—London Bank Account .. .. .	....	....	1,089,923
Total Cr.	....	....	1,596,524

CONSOLIDATED REVENUE FUND.

Although the system of keeping accounts on a cash basis is in operation, it is necessary, in estimating the financial position of the State, to consider the Old Deficiency Account and the New Account under the Audit Act Amendment Act, which form the Consolidated Revenue Account, as well as the Loans Account, and the various Trust Accounts not forming part of the Consolidated Revenue Account.

The following table shows the Accumulated Deficiency on the Consolidated Revenue Account for each of the last ten years. The Treasury Bills issued have been included in the statement, as they became part of the Consolidated Revenue Account proper:—

Financial Year.	Deficiency Bills Current at end of Year.	Cash Balance at 30th June.		Actual Accumulated Deficiency.
		Credit.	Overdraft.	
	£	£	£	£
1907	1,561,632	1,471,344	.....	90,288
1908	1,214,516	1,676,924	.....	*462,408
1909	914,516	637,678	.....	276,838
1910	659,337	989,707	.....	*330,370
1911	414,516	401,505	.....	13,011
1912	114,516	61,363	.....	53,153
1913	.....	.....	1,167,017	1,167,017
1914	.....	.....	793,978	793,978
1915	.....	.....	363,931	*63,931
1916	.....	.....	214,340	214,340

* Accumulated surplus.

REVENUE AND EXPENDITURE.

The gross and net revenue, as well as the net expenditure, since 1907, were as follows:—

Year ended 30th June.	Gross Revenue	Refunds.	Net Revenue.		Net Expenditure.	
			Total.	Per Inhabitant.	Total.	Per Inhabitant.
	£	£	£	£ s. d.	£	£ s. d.
1907	13,584,483	177,945	13,406,543	8 18 11	12,831,323	8 11 3
1908	14,230,459	234,594	13,995,865	9 2 8	13,790,285	9 0 0
1909	13,906,846	219,571	13,687,275	8 15 5	14,726,521	9 8 9
1910	14,732,315	149,900	14,582,415	9 2 8	14,230,386	8 18 3
1911	14,021,123	138,638	13,882,485	8 9 5	14,470,687	8 16 7
1912	15,941,078	143,942	15,797,136	9 6 0	16,137,279	9 10 0
1913	16,486,890	226,434	16,260,456	9 2 9	17,488,836	9 16 7
1914	18,653,089	214,860	18,438,229	10 1 2	18,065,190	9 17 2
1915	19,125,984	179,757	18,946,227	10 3 6	18,516,179	9 18 10
1916	19,939,065	235,547	19,703,518	10 10 11	19,553,927	10 9 3

The revenue includes surplus revenue returned to the State by the Commonwealth, from 1907 to 1910, under the Constitution Act, and from 1910 onwards under the Commonwealth Surplus Revenue Act of 1910. Prior to 1910 the Commonwealth was obliged to pay to the States not less than three-fourths of the net Customs and Excise revenue, but since then it has paid twenty-five shillings per head to the States.

HEADS OF REVENUE AND EXPENDITURE.

With a view of obtaining a proper conception of the sources from which the revenue is derived, and the objects upon which expenditure is made, the subjoined table has been prepared, showing for the last four financial

years receipts and expenditure for purely Government purposes and for the Business Undertakings of the State:—

					1913.	1914.	1915.	1916.
REVENUE.								
<i>Governmental.</i>					£	£	£	£
Revenue returned by Commonwealth					2,178,683	2,248,241	2,287,295	2,297,872
Taxation—								
Stamp Duties—								
Probate, &c.					365,250	512,529	551,629	645,554
Other					233,940	377,707	552,762	522,992
Land Tax					5,738	4,692	3,346	3,190
Income Tax					662,625	1,290,370	1,653,923	1,707,403
Motor Tax .. .. .					..	..	45,055	54,868
Betting Taxes .. .. .					..	..	..	31,330
Licenses					137,807	144,707	148,955	151,884
Total Taxation					£ 1,405,360	2,350,005	2,955,670	3,117,221
Land Revenue—								
Alienation					990,363	982,885	906,785	1,057,711
Occupation					646,725	641,230	606,984	633,975
Miscellaneous					189,860	204,772	184,312	178,627
Total Land Revenue					£ 1,825,948	1,828,887	1,698,081	1,865,313
Services rendered (other than Business Undertakings)					412,727	453,016	408,390	414,671
General Miscellaneous					495,427	482,649	561,093	502,328
Industrial Undertakings					32,885	6,300	10,358	9,060
Total Governmental					£ 6,361,030	7,349,098	7,920,887	8,206,465
<i>Business Undertakings of the State.</i>								
Railways and Tramways					8,544,376	9,684,877	9,660,822	9,990,502
Sydney Harbour Trust					452,244	470,773	464,681	489,722
Metropolitan Board of Water Supply and Sewerage					633,590	713,056	796,338	844,664
Hunter District Water Supply and Sewerage Board					66,145	80,945	85,823	98,089
Total Business Undertakings					£ 9,696,364	10,949,651	11,007,664	11,422,977
Advances repaid					203,062	139,480	17,676	74,076
Grand Total					£ 16,260,456	18,438,229	18,946,227	19,763,518
EXPENDITURE.								
<i>Governmental.</i>								
Interest on Public Debt and Funds in temporary possession of Government (exclusive of Business Undertakings)					950,895	1,022,732	971,435	1,057,760
Reduction of Public Debt					450,602	5,632	5,688	6,504
Local Government—								
Endowments and Grants					281,304	253,352	281,243	344,022
Police and Prisons					641,858	655,189	653,282	652,119
Hospitals and Charities (including Lunacy)					643,969	733,387	769,311	880,243
Departments—								
Premier					115,303	85,925	185,883	175,978
Chief Secretary and Public Health					107,827	122,666	132,955	126,539
Treasurer					603,520	624,716	593,936	594,751
Attorney-General and Justice					301,788	335,776	333,965	334,058
Lands					391,752	384,478	451,025	410,017
Public Works					540,515	418,225	441,523	444,698
Public Instruction					1,490,205	1,607,324	1,635,453	1,698,515
Labour and Industry					39,510	54,049	43,759	50,111
Mines					63,157	67,834	71,010	74,803
Agriculture					216,366	295,943	236,163	245,298
All other Services					545,927	450,190	420,223	467,293
Total Governmental					£ 7,384,498	7,112,418	7,226,854	7,562,718
<i>Business Undertakings of the State.</i>								
Working Expenses—								
Railways and Tramways					6,390,420	7,123,569	6,928,379	7,233,151
Sydney Harbour Trust					124,970	132,017	133,156	144,972
Metropolitan Board of Water Supply and Sewerage					217,964	249,814	279,813	287,598
Hunter District Board of Water Supply and Sewerage					26,889	29,687	31,079	32,164
Total Business Undertakings					£ 6,760,243	7,535,087	7,372,427	7,697,885
Interest on Capital—								
Railways and Tramways					2,129,995	2,382,357	2,611,780	2,873,998
Sydney Harbour Trust					207,869	234,681	250,279	275,697
Metropolitan Board of Water Supply and Sewerage					372,714	415,944	442,019	485,597
Hunter District Board of Water Supply and Sewerage					26,780	30,486	32,359	35,919
Total Business Undertakings					£ 2,737,358	3,063,468	3,336,467	3,671,211
Transfers to Public Works and Closer Settlement Funds					559,698	338,541	499,408	589,818
Advances made					£ 47,039	17,676	81,023	32,295
Grand Total					£ 17,488,836	18,065,190	18,516,179	19,553,927

The headings of Revenue and Expenditure shown previously for the years ended 30th June, 1913 to 1916, are repeated here, and against each is given the rate per head of population:—

REVENUE.	Per Inhabitant.			
	1913.	1914.	1915.	1916.
	£ s. d. 1 4 6	£ s. d. 1 4 6	£ s. d. 1 4 7	£ s. d. 1 4 7
<i>Governmental.</i>				
Revenue returned by Commonwealth				
Taxation—				
Stamp Duties—				
Probate, &c.	0 4 1	0 5 7	0 5 11	0 6 11
Other	0 2 8	0 4 1	0 5 11	0 5 7
Land Tax	0 0 1	0 0 1		
Income Tax	0 7 6	0 14 1	0 17 9	0 18 3
Motor Tax			0 0 6	0 0 7
Betting Taxes				0 0 4
Licenses	0 1 6	0 1 7	0 1 8	0 1 8
Total Taxation	0 15 10	1 5 5	1 11 9	1 13 4
Land Revenue—				
Alienation	0 11 3	0 10 9	0 9 9	0 11 4
Occupation	0 7 3	0 7 0	0 6 6	0 6 10
Miscellaneous	0 2 1	0 2 2	0 2 0	0 1 10
Total	1 0 7	0 19 11	0 18 3	1 0 0
Services rendered (other than Business Undertakings) ..	0 4 8	0 5 0	0 4 5	0 4 5
General Miscellaneous	0 5 7	0 5 3	0 6 0	0 5 5
Industrial Undertakings	0 0 4	0 0 1	0 0 1	0 0 1
Total Governmental	3 11 6	4 0 2	4 5 1	4 7 10
<i>Business Undertakings of the State.</i>				
Railways and Tramways	4 16 1	5 5 8	5 3 9	5 6 11
Sydney Harbour Trust	0 5 1	0 5 2	0 5 0	0 5 3
Metropolitan Board of Water Supply and Sewerage ..	0 7 1	0 7 9	0 8 7	0 9 0
Hunter District Board of Water Supply and Sewerage ..	0 0 9	0 0 11	0 0 11	0 1 1
Total Business Undertakings	5 9 0	5 19 6	5 18 3	6 2 3
Advances repaid	0 2 3	0 1 6	0 0 2	0 0 10
Grand Total	9 2 9	10 1 2	10 3 6	10 10 11
EXPENDITURE.				
<i>Governmental.</i>				
Interest on Public Debt and Funds in temporary possession of Government (exclusive of Business Undertakings) ..	0 10 8	0 11 2	0 10 5	0 11 4
Reduction of Public Debt	0 5 1	0 0 1	0 0 1	0 0 1
Local Government—				
Endowments and Grants	0 3 2	0 2 11	0 3 1	0 3 8
Police and Prisons	0 7 2	0 7 2	0 7 0	0 7 0
Hospitals and Charities (including Lunacy)	0 7 3	0 8 0	0 8 4	0 9 5
Departments—				
Premier	0 1 4	0 0 11	0 2 0	0 1 10
Chief Secretary and Public Health	0 1 3	0 1 4	0 1 5	0 1 4
Treasurer	0 6 9	0 6 10	0 6 5	0 6 4
Attorney-General and Justice	0 3 5	0 3 6	0 3 7	0 3 7
Lands	0 4 5	0 4 2	0 4 10	0 4 5
Public Works	0 6 1	0 4 7	0 4 9	0 4 9
Public Instruction	0 16 9	0 17 6	0 17 7	0 18 2
Labour and Industry	0 0 5	0 0 7	0 0 5	0 0 6
Mines	0 0 8	0 0 9	0 0 9	0 0 19
Agriculture	0 2 5	0 3 3	0 2 6	0 2 8
All other Services	0 6 2	0 4 11	0 4 6	0 5 0
Total Governmental	4 3 0	3 17 8	3 17 8	4 0 11
<i>Business Undertakings of the State.</i>				
Working Expenses—				
Railways and Tramways	3 11 10	3 17 9	3 14 5	3 17 5
Sydney Harbour Trust	0 1 5	0 1 5	0 1 5	0 1 7
Metropolitan Board of Water Supply and Sewerage ..	0 2 5	0 2 9	0 3 0	0 3 1
Hunter District Board of Water Supply and Sewerage ..	0 0 4	0 0 4	0 0 4	0 0 4
Interest on Capital—	£ 3 16 0	4 2 3	3 19 2	4 2 5
Railways and Tramways	1 3 11	1 6 0	1 8 1	1 10 9
Sydney Harbour Trust	0 2 4	0 2 7	0 2 8	0 2 11
Metropolitan Board of Water Supply and Sewerage ..	0 4 2	0 4 6	0 4 9	0 5 2
Hunter District Board of Water Supply and Sewerage ..	0 0 4	0 0 4	0 0 4	0 0 5
Total Business Undertakings	£ 1 10 9	1 13 5	1 15 10	1 19 3
Transfer to Public Works and Closer Settlement Funds ..	0 6 4	0 3 8	0 5 4	0 6 4
Advances made	0 0 6	0 0 2	0 0 10	0 0 4
Grand Total	9 16 7	9 17 2	9 18 10	10 9 3

CLOSER SETTLEMENT FUND.

The Closer Settlement Account was established under Act No. 9 of 1906. The contributions have been advanced from the Consolidated Revenue Fund, from Loans, and from the balance at credit of the Real Property Act Assurance Fund, which was transferred at the inauguration of the Fund.

The subjoined statement shows the receipts and expenditure of the Closer Settlement Account for the financial year ended 30th June, 1916:—

RECEIPTS.							
							£
Balance brought forward from previous year	...	...	...	...	...	...	124,124
Assurance Fees—Real Property Act	...	...	...	...	...	...	8,639
Repayments by Settlers	...	...	...	...	...	...	136,152
Repayments on Account of Improvement Leases...	...	...	...	...	...	...	11,725
Transfer from Public Works Account	...	...	...	...	...	...	65,000
							<hr/> £345,640
EXPENDITURE.							
							£
Under Real Property Act	...	...	...	...	...	...	185
Purchase of Estates, including contingent expenses	...	...	...	...	...	...	149,002
Compensation for Improvement Leases, &c.	...	...	...	...	...	...	36,391
Interest on Purchase Money	...	...	...	...	...	...	916
Repayment to Public Works Account	...	...	...	...	...	...	65,000
Recoup to Consolidated Revenue Fund	...	...	...	...	...	...	19,024
Balance, 30th June, 1916	...	...	...	...	...	...	75,122
							<hr/> £345,640 <hr/>

During the period of ten years ended 30th June, 1916, thirty-five estates were purchased for closer settlement, exclusive of Improvement Leases, &c., resumed under Act 74 of 1912, the total area of all the estates being 1,233,833 acres. Receipts from all sources amounted to £718,660, and the expenditure was as follows:—Purchase money, £2,889,979; contingent expenses, £116,315; total, £3,006,294. On the 30th June, 1916, there were 473 purchasers with overdue instalments, the amount outstanding being £61,625.

PUBLIC WORKS FUND.

The Public Works Account, which was opened in the year 1906, under the authority of the same statute which provided for the Closer Settlement Fund, receives two-thirds of the net proceeds of sales of Crown lands, less 20 per cent., credited to the Consolidated Revenue Fund, also the proceeds of land sales under the Public Instruction Act; while grants in aid are

occasionally voted from Consolidated Revenue. The transactions for the year ended 30th June, 1916, are shown below:—

Receipts.	Amount.	Disbursements.	Amount.
	£		£
Repayments to credit of Votes (previous years)	16,513	Premier—Immigration and Tourist Bureau—Improvements to Caves, &c.	4,645
Two-thirds net proceeds of Sale of Crown Lands, exclusive of interest on purchase money—less 20 per cent.	354,518	Colonial Secretary and Minister of Public Health—	
Net proceeds of Sale of Land, under section 4, Public Instruction Act of 1880	402	Hospitals and Benevolent Asylums	47,377
Transfers from Consolidated Revenue Account	235,000	Miscellaneous	2,797
Repayment of Advance to Closer Settlement Account	65,000		50,174
		Treasurer — Government Printing	
		Office—Plant	3,242
		Explosives	1,723
		Sydney Harbour Trust	26,979
		Miscellaneous	77
			32,021
		Attorney-General and Justice	3,914
		Secretary for Lands—	
		Resumption of Parks, Foreshores, &c.	25,885
		Miscellaneous	5,386
			31,221
		Public Works—Harbours and Rivers	14,912
		Dredge Service	6,286
		Public Buildings	56,000
		Construction of Works generally	3,043
		Metropolitan Board of Water Supply and Sewerage—Water Supply	15,651
		Hunter District Water Supply and Sewerage Board—Water Supply	4,818
		Roads and Bridges	25,532
		Main Roads Boards	47,999
		Grants to Shires and Municipalities	10,586
		Railways and Tramways	4,922
		Recoup to Loan Vote	19,500
			209,250
		Public Instruction —	
		Technical	4,577
		School Buildings, &c.	173,441
		New Zoological Gardens, Taronga Park	4,366
		Miscellaneous Services	1,222
		Recoup to Loan Vote	25,000
			213,606
		Agriculture—	
		Wheat-growing—Purchase of Land	5,379
		Irrigation	5,576
		Miscellaneous	519
			11,474
		Forestry—	
		Afforestation, &c.	6,539
		Total Works, Services, &c.	562,844
		Advance to Closer Settlement Fund	65,000
Balance, 30th June, 1915, brought forward	165,521	Balance, 30th June, 1916	209,410
Grand Total	£ 837,254	Grand Total	£ 837,254

EXPENDITURE ON PUBLIC WORKS.

The total expenditure on Public Works during each of the last five years is given in the following table, which shows the amount disbursed from the Public Works Fund, Consolidated Revenue Fund, and Loans:—

Year.	Public Works Fund.	Consolidated Revenue Fund.	Loans.	Total Expenditure.	Per Inhabitant.
	£	£	£	£	£ s. d.
1912	876,344	632,686	5,491,103	7,000,133	4 2 5
1913	570,831	570,768	7,703,594	8,845,193	4 19 5
1914	390,358	490,206	9,126,844	10,007,408	5 9 3
1915	583,541	533,932	6,996,107	8,113,580	4 7 2
1916	562,844	601,213	8,173,104	9,337,161	4 19 11

TAXATION.

License Fees, Land and Income Taxes, Stamp and Probate Duties, Motor Taxes, and Betting Taxes, represent the various forms of taxation in the State, and the subjoined statement shows the revenue derived from each source during the year ended 30th June, 1916:—

Head of Revenue.	Gross Revenue.	Refunds.	Net Revenue.
Collections from Licenses:—	£	£	£
To Retail Fermented and Spirituous Liquors, including Colonial Wine, Cider, and Perry ...	92,327	515	151,884
Wholesale Spirit Dealers ...	5,140		
Billiard and Bagatelle ...	8,321		
Auctioneers ...	7,126		
Hawkers, Pedlars, and Pawnbrokers ...	2,678		
Sale of Tobacco, Cigars, and Cigarettes ...	3,826		
Explosives Act of 1905 ...	1,422		
Metropolitan Traffic Act ...	3,473		
Motor Traffic Act ...	22,659		
Gaming and Betting Act, 1906 ...	1,153		
Theatres and Public Halls Act, 1908 ...	3,136		
All other ...	1,133		
Total, Licenses ...	£ 152,399	515	151,884
Land Tax ...	3,317	127	3,190
Income Tax... ..	1,792,916	85,513	1,707,403
Motor Tax	55,251	383	54,868
Stamp Duties:—			
Adhesive Stamps	164,850	25,144	1,168,546
Impressed Stamps—	£		
Deeds	205,028		
Debentures, Promissory Notes, and Bills of Exchange	32,483		
Coupons, Cheques, and Receipts ...	93,985		
Bills of Lading, Transfers of Shares, &c.	15,068		
	346,564		
Less Commissions and Deductions	1,953		
	344,611		
Bank-note Composition... ..	1,863		
	£		
Probate Duties	642,445		
Settlement and Companies' Death Duties	3,109		
	645,554		
Betting Tickets	27,638		
Miscellaneous Receipts... ..	616		
Paid direct to Treasury	8,558		
Total, Stamp Duties ...	£ 1,193,690	25,144	1,168,546
Betting Taxes—Racing Clubs and Bookmakers ...	31,330	31,330
Revenue from Taxation	£ 3,228,903	111,682	3,117,221

The control of Customs and Excise passed to the Commonwealth Government on 1st January, 1901, and consequently the foregoing statement does not include any figures relating to taxation from those sources. In a publication of this character, however, it is desirable that the actual amount to which the people of the State are subjected by way of taxation, whether

direct or indirect, should be clearly set forth. The following statement shows in detail the net revenue from each source of taxation for the five years ended 30th June, 1916, after deducting refunds, but not allowing for cost of collection:—

Head of Taxation or Charge.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
COMMONWEALTH.	£	£	£	£	£
Customs Duties	5,148,068	5,391,029	5,389,065	5,393,560	6,225,832
Excise "	1,093,339	1,257,667	1,274,007	1,430,301	1,763,900
Land Tax	849,942	831,228	765,867	1,041,219	1,064,881
Income Tax ... ..	.....	.....	.....	.....	*1,575,638
Probate and Succession Duties ... ..	.....	.....	.....	19,232	257,363
Total Commonwealth Taxation .. £	7,091,349	7,479,924	7,428,939	7,884,312	10,887,554
STATE.					
Land Tax	6,479	5,738	4,692	3,346	3,190
Income Tax	644,571	662,625	1,290,370	1,653,923	1,707,403
Stamp Duties—					
Stamps	238,522	230,197	375,114	550,609	493,491
Bank-note Composition..	16,563	3,743	2,593	2,153	1,863
Betting Tickets..	.....	.....	.....	.....	27,638
Probate	839,212	357,275	494,660	543,459	642,445
Settlement and Companies' Death Duties ...	10,193	7,975	17,869	8,170	3,109
Total, Stamps £	1,104,490	599,190	890,236	1,104,391	1,168,546
Motor Tax ... ..	.....	.....	.....	45,055	54,868
Betting Taxes ... ..	.....	.....	.....	.....	31,330
Licenses	130,113	137,807	144,707	148,955	151,884
Total State Taxation ... £	1,885,653	1,405,360	2,330,005	2,955,670	3,117,221
LOCAL.					
Wharfage and Tonnage Rates	256,821	281,725	285,897	277,760	298,612
Fees for Registration of Dogs	16,269	16,768	17,079	17,075	16,851
Municipal Rates—					
City of Sydney	221,450	226,688	242,303	285,024	295,529
" " (Land Tax)	98,183	100,267	151,212	170,653	168,613
Suburban and Country Municipalities ...	731,687	818,576	889,353	1,026,537	1,074,453
Shire Rates	470,054	524,548	572,924	625,501	626,514
Licenses (City Council)—					
Auctioneers, Hawkers, &c.	1,258	1,499	1,479	1,392	2,106
Water and Sewerage Rates —(Metropolitan and Hunter)	646,087	702,956	799,392	884,313	947,489
Total Local Rates and Charges £	2,441,809	2,673,027	2,959,639	3,288,255	3,430,167
GRAND TOTAL £	11,418,811	11,568,311	12,718,583	14,128,237	17,434,942

* Partly estimated; the final figures are not available.

Customs and Excise Duties since 1910 are gross and do not take into account Interstate Credits and Debits, which are not available for subsequent years. During 1909-10, the last year in which these credits and debits were recorded, the net Interstate Debits were £242,955. The figures

for Municipal and Shire Rates and Licenses relate to the year ended 31st December preceding the end of the financial year in which they are included on the previous page.

TAXATION PER INHABITANT.

The previous figures would be incomplete without corresponding information respecting the taxation per head of population, which is set forth hereunder:—

Head of Taxation or Charge.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
COMMONWEALTH.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Customs Duties	3 0 7	3 0 7	2 18 9	2 17 10½	3 6 7½
Excise Duties	0 12 11	0 14 2	0 13 11	0 15 4	0 18 10½
Land Tax	0 10 0	0 9 4	0 8 4	0 11 2½	0 11 4½
Income Tax ... ..	.....	.....	.....	.....	0 16 10½
Probate and Succession Duties	.....	.....	.....	0 0 2½	0 2 9
Total Commonwealth Taxation ... £	4 3 6	4 4 1	4 1 0	4 4 7½	5 16 6½
STATE.					
Land Tax	0 0 1	0 0 1	0 0 1	0 0 0½	0 0 0½
Income Tax	0 7 7	0 7 6	0 14 1	0 17 8½	0 18 3½
Stamp Duties—					
Stamps	0 2 10	0 2 7	0 4 1	0 5 10¾	0 5 3½
Bank-note Composition	0 0 2½	0 0 0½	0 0 0½	0 0 0½	0 0 0½
Betting Tickets ... ..	.....	.....	.....	.....	0 0 3½
Probate	0 9 10	0 4 0	0 5 5	0 5 10	0 6 10½
Settlement and Companies' Death Duties	0 0 1½	0 0 1½	0 0 2½	0 0 1	0 0 0½
Total Stamp Duties £	0 13 0	0 6 8¾	0 9 8½	0 11 10	0 12 6½
Motor Tax ... ..	.....	.....	.....	0 0 6	0 0 7
Betting Taxes ... ..	.....	.....	.....	.....	0 0 4
Licenses	0 1 6	0 1 6	0 1 7	0 1 7	0 1 7½
Total State Taxation £	1 2 2	0 15 9¾	1 5 5½	1 11 8	1 13 4½
LOCAL.					
Wharfage and Tonnage Rates ...	0 3 0	0 3 2	0 3 2	0 3 0	0 3 2½
Fees for Registration of Dogs ...	0 0 2½	0 0 2½	0 6 2½	0 0 2½	0 0 2½
Municipal Rates—					
City of Sydney	0 2 8	0 2 7	0 2 8	0 3 0½	0 3 2
„ (Land Tax)	0 1 2	0 1 1	0 1 8	0 1 10	0 1 9½
Suburban and Country Municipalities	0 8 7	0 9 3	0 9 8	0 11 0½	0 11 6
Shire Rates	0 5 7	0 5 11	0 6 3	0 6 8½	0 6 8½
Licenses (City Council)—					
Auctioneers, Hawkers, &c. ...	0 0 0½	0 0 0½	0 0 0½	0 0 0½	0 0 0½
Water and Sewerage Rates—					
Metropolitan and Hunter ...	0 7 7	0 7 11	0 8 8	0 9 5½	0 10 1½
Total Local Rates and Charges ... £	1 8 9½	1 10 1½	1 12 3½	1 15 3½	1 16 8½
GRAND TOTAL £	6 14 5½	6 10 0½	6 18 9	7 11 6½	9 6 7

The foregoing tables of Net Revenue give a comprehensive list of the various sources of taxation, and the rates per capita prevailing for the five years ended 30th June, 1916. During that period the proportions increased in Customs Duties, Excise, Income Tax, Wharfage and Tonnage Rates, City Municipal Rates, Suburban and Country Municipal Rates, Shire Rates, and Water and Sewerage Rates. Decreases occurred in Stamp Duties owing to fluctuations in values of deceased estates, and in the State Land Tax, the latter being due to the operation of the Local Government Acts. A new source of revenue was provided by the Finance (Taxation) Acts, 1914 and 1915, under the provisions of which motor vehicles must be annually registered with the Police Department, and on such registration a fee fixed at a minimum of £1 is payable in respect of a motor cycle, motor tricycle, or taxi-cab. On other motor vehicles the license fee ranges between £2 and £20, and the basis upon which the fee is payable is the "horse-power" of the vehicle. Motor cars used by medical practitioners or clergymen, public motor cars (except taxi-cabs), and trade motor vehicles pay half rates. Government motor vehicles, ambulance motor vehicles, and those owned by municipalities and shires, or by the City of Sydney, are exempt from taxation. The Revenue benefited during 1916 by this tax to the extent of £54,868.

There was a noticeable decrease in the revenue derived from Income, Land, and Stamp Duty Taxation between the years 1907 and 1909. This was due to amending legislation under Acts Nos. 7 and 8 of 1907, so far as Income Tax and Stamp Duties are concerned, whereby, from the 1st January, 1908, any income won by personal exertion, up to £1,000 a year, was exempt from direct taxation, but owing to new legislation, imposing a tax on incomes exceeding £300 per annum, the income tax shows a large increase in 1912, and in 1914 additional amounts were obtained by the Income Tax Amendment Act of that year, which further increased the taxes and reduced the exemption to £250. In 1915 a Commonwealth Income Tax Act came into force under the provisions of which all net incomes above £156 earned during the currency of the year ending 30th June, 1915, were subjected to taxation. Stamp receipts declined from 1907 to 1909 owing to the repeal of duties on bills of exchange, promissory notes, drafts, receipts, &c., but the death duties were not altered. Early in the year 1914 the Stamp Duties Amendment Act, 1914, became law, which imposed additional stamp duties, and considerably increased the probate duties.

The decline in revenue from the State land tax is attributable to the operation of the Taxation Amending Acts of 1905 and 1906, and of the Sydney Corporation (Amendment) Act of 1908, which provide for the allotment to Shires and Municipalities of land taxation collected within their area. These taxation Amending Acts are a necessary corollary to the Local Government Extension Act of 1906. As shown in succeeding pages, a land tax was levied by the Commonwealth Government as from 1st July, 1910.

TAXATION.

State Land Tax.

The land tax of the State is levied on the unimproved value at the rate of 1d. in the £. A sum of £240 is allowed by way of exemption, and where the unimproved value is in excess of that sum a reduction equal to the exemption is made; but where several blocks of land within the State are held by a person or company, only one amount of £240 may be deducted from the aggregate unimproved value. In cases where land is mortgaged, the mortgagor is permitted to deduct from the tax payable a sum equal to the income tax paid by the mortgagee on the interest

derived from the mortgage of the whole property, including improvements. The lands exempt from taxation consist of Crown lands not subject to the right of purchase, nor held under special or conditional lease, nor as homestead selections; other lands vested in the Crown; lands vested in the Railway Commissioners; lands belonging to or vested in local authorities; public roads, reserves, parks, cemeteries, and commons; lands occupied as public pounds, or used exclusively for or in connection with public hospitals, benevolent institutions, and other public charities, churches, and chapels; the University and its affiliated colleges, the Sydney Grammar School, and mechanics' institutes and schools of art; and lands dedicated to and vested in trustees and used for zoological, agricultural, pastoral, or horticultural show, or for other public or scientific purposes.

Under the Local Government Act, 1906, when the Council of a shire or municipality makes and levies a general rate, not less than 1d. in the £ on the unimproved value of land within its area, land tax ceases to be collected by the State therein. A similar provision was extended to the City of Sydney under the operation of the Sydney Corporation (Amendment) Act, 1908.

Land tax, therefore, is now levied only on the unincorporated portion of the Western Division of the State.

STATE INCOME TAX.

The former Acts relating to income tax were amended by the Income Tax Act, 1911. Under its provisions a tax was payable by all persons other than companies in receipt of £300 per annum, derived from all sources within New South Wales. In the case of companies the total receipts are taxable.

Under the Income Tax (Amendment) Act, 1914, further increases were imposed, and the exemption was reduced to £250, no deduction being allowed to companies. A taxpayer is allowed a deduction of £50 in respect of each child under 18 years of age wholly maintained by him, and insurance premiums up to £50 are exempt.

The tax payable by any company is 1s. in the £ on the taxable income of the company, and the rates per £ for persons other than companies are as follows:—

So much of income chargeable—

As does not exceed £700	...	...	...	...	...	...	8d.
As exceeds £700 and does not exceed £1,700	...	...	...	...	...	...	9d.
„ £1,700	„	£2,700	...	...	...	...	10d.
„ £2,700	„	£4,700	...	...	...	...	11d.
„ £4,700	„	£6,700	...	...	...	...	1s.
„ £6,700	„	£9,700	...	...	...	...	1s. 1d.
„ £9,700	...	...	...	...	...	...	1s. 2d.

In each case an addition of one-third of tax is made on so much of the income as is derived from the produce of property.

The following incomes are exempt from income-tax, viz.:—

- (a) The revenues of municipal corporations or other local authorities.
- (b) The incomes of mutual life assurance societies and of other companies or societies not carrying on business for purposes of profit or gain, except income from mortgages.
- (c) The funds and incomes of societies registered under the Friendly Societies Act or under any Act relating to trade unions.
- (d) The incomes and revenues of all ecclesiastical, charitable, and educational institutions of a public character, whether supported wholly or partly by grants from the Consolidated Revenue Fund or not.

- (e) Income arising or accruing to any person from Government debentures, inscribed stock, and Treasury bills.
 (f) Dividends derived from shares in a company.

These exemptions do not extend to the salaries and wages of persons employed by any such corporation, company, society, or institution, although the same be paid wholly or in part out of the revenues or funds thereof.

INCREASE OF STATE INCOME TAX FOR YEARS 1914 TO 1916.

Under the Finance (Taxation) Act, 1914, the amount in the pound which was imposed on any taxable income by the Income Tax Act, 1911, and amendments of 1912 and 1914, with respect to the tax on income received during the year 1914, was increased by the sum of threepence. A similar increase of threepence in the pound with respect to tax on income received during the years 1915 and 1916 was imposed by the Finance (Taxation) Act, 1915, and the Income Tax Act, 1916.

REVENUE FROM STATE LAND AND INCOME TAXES.

The revenue from land and income taxes since 1896, the year in which they were first imposed, is shown hereunder. The amounts exclude refunds rendered necessary through correction of errors by the taxpayer or adjustments by the Department, but include refunds brought about through the income of the year of assessment falling short of the amount of income of the preceding year on which the assessment was made; a provision which was repealed by the Land and Income Tax Amendment Act, 1904:—

Year.	State Land Tax.	State Income Tax.	Year.	State Land Tax.	State Income Tax.
	£	£		£	£
1896	.....	27,658	1907	345,497	283,422
1897	139,079	295,537	1908	178,889	215,283
1898	364,131	166,395	1909	80,794	202,369
1899	253,901	178,032	1910	9,066	219,977
1900	286,227	183,460	1911	7,438	269,142
1901	288,369	215,893	1912	6,479	644,571
1902	301,981	203,625	1913	5,738	662,625
1903	314,104	214,686	1914	4,692	1,290,370
1904	322,246	193,240	1915	3,346	1,653,923
1905	323,267	195,252	1916	3,190	1,707,403
1906	329,998	266,233			

The fluctuations shown in the first three years are due to the difficulties inseparable from the introduction of a system of direct taxation; the returns for 1899 and subsequent years, however, are under normal conditions, which have been varied according to the rate of tax in the case of the income tax, and by the transfer of the land tax to shires and municipalities.

BETTING TAXES.

The Finance (Taxation) Act, 1915, also imposed taxes on Racing Clubs and Associations, and Bookmakers.

With regard to the Clubs, the rates are levied on licenses and fees received from bookmakers, and range from 25 per cent. on racecourses within 40 miles of the General Post Office, Sydney, or 20 miles from the Post Office, Newcastle, to 10 per cent. on courses outside the limits mentioned.

The taxes payable by bookmakers are regulated according to the particular courses where operations are carried on, and vary considerably. Bookmakers licensed by the Australian Jockey Club pay from £5 to £50 for

betting at Randwick, and from £10 to £20 for operating at other courses under the control of that body. Bookmakers doing business under the other clubs and associations in the Metropolitan and Newcastle districts are charged from £10 to £20 per annum, while in Broken Hill and other country centres the charges range from £5 to £10. The total amount received during the half-year ended 30th June, 1916, from the betting taxes mentioned was £31,330.

The Act further provided for the imposition of a stamp duty on all betting tickets issued by bookmakers, the amount being one penny in the saddling paddock, and one half-penny for the other parts of the racecourse. The revenue derived from this source during the half-year ended 30th June, 1916, was £27,638, which will be largely augmented in following years.

TOTALIZATOR TAX.

For the purpose of increasing the Revenue of the State by means of the profits earned by the speculative portion of the community, the Government passed the Totalizator Act (No. 75, 1916), which became law on the 20th December, 1916.

Under this Act all registered Racing Clubs and Associations must establish an approved totalizator within a specified period, generally the 31st March, 1917. A few of the racing bodies have already complied with the regulations, but extensions have been granted in cases where large buildings must be erected.

The amount of commission to be deducted from the total amount invested is 10 per cent., and an additional 1 per cent. is allowed as a Sinking Fund to meet the cost of the machines. Seven-tenths of the deductions must be paid to the Colonial Treasurer, and the other three-tenths are retained by the clubs for prizes and upkeep of the buildings.

Returns must be sent to the Colonial Treasurer, within fourteen days after the races, of all moneys received, commission retained, and expenses of conducting the meetings. Penalties are imposed for breaches of the Act, such as betting by minors or issuing tickets to such persons; paying totalizator odds by bookmakers; persons acting as selling agents; officers of clubs accepting telegraphic or telephonic messages; officers receiving moneys after starting of races; impeding inspectors; and various other offences.

COMMONWEALTH LAND TAX.

The Commonwealth Government levied a graduated tax on the unimproved value of the lands of the Commonwealth, as from the 1st July, 1910. In the case of owners who were not absentees, an amount of £5,000 was exempt, and the rate of tax ranged from 1d. for the first £1 of value in excess of that amount, and increased uniformly to 3½d. in the £ on a taxable balance of £75,000 with 6d. in the £ for every £ in excess of that amount. Absentee owners were required to pay 1d. in the £ up to £5,000, with a uniform progression for the next £75,000, reaching 4½d. in the £. On every £ in excess of £80,000, 7d. was payable.

By amendments of the Act taking effect from 30th June, 1914, the rates were increased, and interests in certain Crown leases hitherto exempt, have now become taxable. Within the same limits as before regarding taxable balances, the progression now ranges from 1d. to 5d. where land is held by residents, and from 2d. to 6d. where the owners are absentees. After the progression ceases residents pay a flat rate of 9d. in the £, and absentees 10d. in the £. Interests in Crown leases carrying the right of purchase were liable to taxation under the original Act, but since 30th June, 1914, interests in practically all Crown leases with a term exceeding one year are taken into assessments. Lands

owned by a State, municipality, or other public authority, by savings banks, friendly societies, trades unions, or used solely for religious, charitable, or educational purposes, &c., are not taxable.

The tax is very comprehensive; all interests, both direct and indirect, are included in a taxpayer's assessment, and his rate fixed accordingly. To avoid double taxation, however, deductions are made in respect of tax paid by any primary taxpayer or precedent secondary taxpayer, but always maintaining the principle of progression. Care has been taken not to penalise owners of land affected by pre-existing contracts, or held under settlements made before the commencement of the Act or under wills of persons who died before 30th June, 1910.

The following statement, being the latest available, shows the assessments by the Commonwealth Land Tax Department for the State of New South Wales for the year ended 1913-14:—

Classification.	Residents.	Absentees.	Total.
Values assessed:—	£	£	£
Town Lands—			
Improved	59,314,778	2,303,120	61,617,898
Unimproved	30,449,899	1,207,326	31,657,225
Tax	272,591	16,815	289,406
Country Lands—			
Improved	116,977,254	1,221,257	118,198,511
Unimproved	55,330,314	544,714	55,875,028
Tax	463,105	7,736	470,841
Total—			
Improved	176,292,032	3,524,377	179,816,409
Unimproved	85,780,213	1,752,040	87,532,253
Tax	735,696	24,551	760,247
Area of Country Land assessed in New South Wales	Acres. 33,224,162	Acres. 341,768	Acres. 33,565,930

The total figures for New South Wales show that the land tax for residents was £735,696; absentees, £24,551; total, £760,247; while for the whole Commonwealth the corresponding figures were: Residents, £1,395,985; absentees, £55,788; grand total, £1,451,773.

The area of land in New South Wales included in taxable returns was 33,565,930 acres, or 52·6 per cent. of the taxable land in the Commonwealth of Australia.

COMMONWEALTH INCOME TAX.

In addition to the income tax of the State, an income tax is now levied by the Commonwealth, under the provisions of two measures passed during the latter part of 1915, and of the Income Tax Assessment Act (No. 2), 1916.

The income tax payable for each financial year is based on the income derived from sources within Australia during the period of twelve months ending on 30th June preceding the financial year for which the tax is payable.

Among the incomes, revenues and funds exempt are those of local governing bodies, or of a public authority, of friendly societies not carried on for pecuniary profit, of trade unions and kindred associations, of religious, scientific, charitable, or public educational institutions, and the income derived from bonds, debentures, or stock of the Commonwealth issued for the purposes of war loans authorised up to the 1st January, 1917. The Act does not apply to persons on active service with the Commonwealth Forces, nor with those of Great Britain or of her Allies as regards income derived from personal exertion and earned prior to the commencement of the Act or during the present war.

In the case of a person other than an absentee, general exemptions as follows are allowed:—

- (a) In respect of income derived from personal exertion, the sum of one hundred and fifty-six pounds, less one pound for every four pounds by which the income exceeds £156.
- (b) In respect of the income derived from property—the sum of one hundred and fifty-six pounds, less five pounds for every eleven pounds by which the income exceeds one hundred and fifty-six pounds.

In the case of persons not being absentees, without dependants, an additional sum of £100 is deducted, less one pound for every four pounds by which the income exceeds £100. Persons not married, and without dependants, with a gross income exceeding £100, and who would not otherwise be liable to pay a tax of £1 or upwards, must pay £1.

The rate of tax upon income derived from personal exertion is slightly over threepence on the first pound of taxable income, and increases uniformly with the increase in income until a taxable income of £7,600 is reached, when the rate is 2s. 7½d. Every pound in excess of £7,600 bears an impost of five shillings.

The rate applicable to income derived from property increases uniformly from slightly over threepence in the first pound of taxable income up to £6,500, when the rate is 5s. 6d. and the tax in excess of that amount is five shillings.

With regard to incomes derived both from personal exertion and property, the rate is ascertained by dividing the total amount of tax payable by the amount of taxable income, assuming that the whole income was derived from each source separately.

Companies pay a flat rate of one shilling and tenpence half-penny in the pound.

In addition to the rates specified, a supertax of 25 per cent. was imposed on the incomes of 1915-16.

COMMONWEALTH ESTATE DUTIES.

The Estates Assessment Act (No. 22 of 1914) provides for the imposition of a duty on properties of all persons dying after the commencement of the Act. The rates are 1 per cent. where the total value does not exceed £2,000, and an additional one-fifth of a pound for every thousand pounds or part thereof, in excess of two thousand pounds, the maximum being 15 per cent.

A reduction of two-thirds of the above rates is allowed if the estate is left to the widow, children, or grandchildren of the testator.

COMMONWEALTH ENTERTAINMENT TAX.

An additional taxation measure, entitled the Entertainment Tax Assessment Act (No. 38 of 1916), provides for the levy of a duty on all tickets for admission to every class of amusement. The rates were fixed as follow:— Payment for admission exceeding sixpence and not exceeding one shilling, one penny on each ticket; when the admission exceeds one shilling, one penny for the first shilling, and one halfpenny for every extra sixpence or part thereof.

LAND REVENUE OF THE STATE.

The receipts from the sale and occupation of Crown land are treated as public income. While the proceeds from occupation, being rent, can be reasonably regarded as an item of revenue, the inclusion of the proceeds of auction, conditional purchase, and other classes of sale in the ordinary revenue is open to serious objection. It has been urged in justification of the course that the sums so obtained have enabled the

Government either to construct works, which enhance the value of the remaining public lands and facilitate settlement, or to endow local bodies, and thus enable them to carry out local works. Under the Act passed in 1906, instituting the Public Works Fund previously mentioned, two-thirds of the net proceeds of the sale of Crown lands, less 20 per cent., equivalent to a clear $53\frac{1}{3}$ per cent., are paid to that fund.

The revenue derived from lands may be grouped under three main heads—(a) auction sales and other forms of unconditional sale; (b) conditional sales under the system of deferred payments; (c) rents from pastoral, mining, and other classes of occupation. The first two sources have been amalgamated under the head of Alienation; while the last is classed as Occupation.

More than half the annual receipts from land are obtained from alienation, as will be seen from the following table, which gives in detail the revenue from 1912 to 1916:—

Head of Revenue.	1912.	1913.	1914.	1915.	1916.
<i>Alienation—</i>	£	£	£	£	£
Sales, etc. :—					
Auction sales	83,764	63,001	43,762	31,630	27,329
Other	15,852	29,854	21,279	14,070	19,090
Total	99,616	92,855	65,041	45,700	46,419
Conditional Purchases :—					
Deposits and improvements	70,930	62,303	42,068	25,782	37,083
Instalments and interest ...	595,805	660,703	721,470	715,697	794,267
Interest (under Act of 1861)	18,894	17,094	17,279	16,131	18,319
Balances	146,593	138,013	101,210	71,231	128,502
Homestead Selections ...	48,577	40,768	43,409	38,621	39,656
Total	880,799	918,881	925,436	867,462	1,017,827
Total, Alienation	980,415	1,011,736	990,477	913,162	1,064,246
<i>Occupation—</i>					
Pastoral :—					
Pastoral leases	706	720	735	769	734
Conditional leases	201,450	207,043	211,662	201,526	206,530
Occupation licenses	26,952	25,051	23,060	21,242	20,621
Homestead and Farm leases	1,771	1,551	1,114	1,085	1,343
Annual and Snow, Inferior and Scrub leases.	43,400	40,607	37,405	35,639	31,902
Settlement leases	85,331	79,147	72,238	67,743	68,204
Improvement leases	49,644	46,203	40,947	37,693	37,167
Western Land Division leases	83,364	89,613	84,662	87,488	90,073
Other leases	34,107	36,533	40,337	41,105	50,045
Total	526,725	526,468	512,160	494,290	506,619
Mining :—					
Mineral leases	17,739	18,796	19,682	15,426	15,602
Leases of auriferous lands	1,892	1,837	1,755	1,668	1,315
Miners' rights	2,777	3,004	2,780	2,484	2,399
Royalty on minerals	89,423	103,851	110,893	99,345	111,194
Other	8,629	9,945	10,092	8,455	7,664
Total	120,460	137,433	145,202	127,378	138,174
Total, Occupation	647,185	663,901	657,362	621,668	644,793
<i>Miscellaneous Land Receipts—</i>					
Survey fees	24,297	27,428	23,992	22,623	24,898
Rents, special objects	43,064	44,546	47,174	52,800	57,087
Timber licenses, royalty, &c.	94,560	96,929	98,972	88,908	66,922
Quitrents and other receipts	32,213	35,459	45,830	30,649	34,631
Total	194,134	204,362	215,968	194,980	183,538
Gross Revenue from Lands	1,821,734	1,879,999	1,863,807	1,729,810	1,892,577
Refunds	56,275	44,051	34,920	31,729	27,264
Net Revenue from Lands...	1,765,459	1,835,948	1,828,887	1,698,081	1,865,313

The land policy of the State, though largely connected with public finance, has been fully discussed in the part of this volume dealing with Land Settlement.

RECEIPTS FOR SERVICES RENDERED.

Information in detail for the year ended 30th June, 1916, as to the amount collected for services rendered by the State, other than for trading concerns, is shown in the following statement:—

Heading.	Gross Revenue.	Refunds.	Net Revenue.
Fees and charges—	£	£	£
Agricultural Colleges and Farms	5,731	266	5,465
Pilotage, Harbour Dues, and Fees—	£		
Pilotage	31,428	71,939	892
Harbour and Light Rates	32,417		
Harbour Dues	4,346		
Navigation Department—Fees, &c.	3,798		
Mint Receipts	7,547	7,547
Public Instruction Department—			
Training Fees	1,297	179,647	527
Registration of Brands	1,280		
Fees of Office—			
Registrar-General	81,637		
Courts of Petty Sessions	25,509		
District Courts	2,246		
Supreme Court	32,492		
Shipping Masters	7,352		
Fees for Registration of Dogs	16,851		
Other Fees	10,983		
Rent of Public Watering-places, &c.	8,445	151,863	421
For the support of Patients in Mental Hospitals	46,039		
Store Rent and carriage of Explosives	19,129		
For Work performed by Prisoners in Gaol	772		
Collections by Government Printer	7,799		
For the support of Children in the Industrial Schools, and Inmates of Benevolent Asylums, Hospitals, &c.	15,560		
Fumigation and Inspection Fees	7,659		
Commonwealth Government	11,398		
Haulage, &c., at Port Kembla	22,762		
Other Receipts	12,300		
Total Receipts for Services Rendered	£ 416,777	2,106	414,671

GENERAL MISCELLANEOUS RECEIPTS.

All items which cannot be placed under one of the classes mentioned in the previous pages (Taxation, Land Revenue, and Receipts for Services rendered) are grouped under the heading of "General Miscellaneous Receipts." The amount received under each head of revenue during the financial year ended 30th June, 1916, and the balance of revenue collected within New

South Wales by the Commonwealth Government and returned, are shown in the subjoined statement:—

Head of Revenue.	Gross Revenue.	Refunds.	Net Revenue.
Rents, &c. (exclusive of Land)—	£	£	£
Wharfrage and Tonnage Rates, &c. (Outports)...	7,980	152	32,201
Government Buildings and Premises ...	22,925		
Rent and Way-leave—Port Kembla Jetty ...	1,448		
Darling Harbour Resumed Area...	59,861	16	59,845
Public Service Superannuation Act, No. 8 of 1903 ...	11,749	1	11,748
Interest on Public Moneys—			
Interest on Advances under Country Towns Water Supply and Sewerage Act ...	36,433	19	36,414
Interest on Bank Deposits and other Temporary Investments of Public Moneys ...	33,775	33,775
Interest on Water and Drainage Works, &c. ...	10,000	10,000
„ Sale of Wire-netting...	3,394	3,394
„ Value of properties Transferred to Commonwealth ...	166,203	166,203
„ Accrued on Loans ...	20,995	20,995
„ Other ...	8,008	8,008
Fines and Forfeitures—			
Sheriff ...	1,932	422	32,420
Courts of Petty Sessions ...	27,907		
Confiscated and Unclaimed Property ...	58		
Industrial Arbitration Court ...	1,908		
Other Fines ...	1,037	223	14,630
Water Conservation and Irrigation Commission ...	14,853		
Repayments—			
Repayment to Credit of Votes—Previous years ...	33,694	17,631	72,695
Value of Materials issued by Government Stores Department ...	2,237		
Seed Wheat—Previous years ...	128		
Annandale Garbage Destructor ...	238		
Balances not required ...	6,052		
State Children Relief Act...	59		
Exchange on Cheques ...	1,106		
Sale of Government Property ...	11,034		
Receipts under Fisheries Act ...	10,183		
Pastures Protection Act—Contributions ...	1,669		
Sydney Abattoirs—Surplus Revenue ...	1,500		
Flemington Sale Yards—Surplus Revenue ...	2,000		
Costs Recovered in Various Actions ...	5,739		
Centennial Park Land Sales ...	1,600		
Hay and Wentworth Irrigation Areas—Rent, Water Rates, &c....	3,431		
Unclaimed Moneys ...	3,680		
Other Unclassified Receipts...	5,976		
Total General Miscellaneous Receipts ...	520,792	18,464	502,328
Balance of Revenue collected within the State by the Commonwealth Government and returned ...	£ 2,297,872	2,297,872
Industrial Undertakings—Interest and Contributions (Act, No. 22, 1912) ...	9,060	9,060

EXPENSES OF GENERAL GOVERNMENT.

The figures given on page 405 regarding the revenue of New South Wales include the amount received on account of the business undertakings of the State—viz., Railways, Tramways, Water Supply and Sewerage, and Sydney Harbour Trust—and in consequence of this system the annual cost of maintaining those services is included in the expenditure.

The following statement shows the progress of expenditure classified under two headings—ordinary expenditure of General Government,

including interest on capital liability of services connected therewith, and expenditure on services practically outside the administration of General Government, such as Railways, Tramways, Water Supply and Sewerage, and Sydney Harbour Trust, including interest on capital liability of the services enumerated. The figures for the ten years ended 30th June, 1916, and the rates per inhabitant, are as follow:—

Year ended 30th June.	Governmental.			Business Undertakings.				Grand Total Expenditure (including Advances).
	General Services.	Interest and Redemptions.	Total.	Railways and Tramways.	Water Supply and Sewerage.	Sydney Harbour Trust.	Total.	
	£	£	£	£	£	£	£	£
1907	5,845,256	1,312,116	7,157,372	4,938,523	471,133	264,295	5,673,951	12,831,323
1908	6,586,223	1,136,188	7,722,411	5,285,058	504,073	278,743	6,067,874	13,790,285
1909	6,986,290	1,233,549	8,220,139	5,698,801	524,254	283,327	6,506,382	14,726,521
1910	6,046,888	1,223,963	7,275,851	6,131,654	536,669	286,212	6,954,535	14,230,386
1911	5,616,317	1,211,103	6,827,420	6,759,942	576,072	307,253	7,643,267	14,470,687
1912	6,379,242	1,334,136	7,713,378	7,501,224	608,534	314,143	8,423,901	16,137,279
1913	6,589,738	1,401,497	7,991,235	8,520,415	644,347	332,839	9,497,601	17,488,836
1914	6,438,271	1,028,364	7,466,635	9,505,926	725,931	366,698	10,598,555	18,065,190
1915	6,830,162	977,123	7,807,285	9,540,159	785,300	383,435	10,708,894	18,516,179
1916	7,120,558	1,034,273	8,184,831	10,107,149	841,278	420,669	11,369,096	19,553,927

Expenditure per Inhabitant.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1907	3 19 1	0 17 4	4 16 5	3 5 2	0 6 2	0 3 6	3 14 10	8 11 3
1908	4 6 3	0 14 7	5 1 10	3 8 1	0 6 6	0 3 7	3 18 2	9 0 0
1909	4 9 5	0 15 11	5 5 4	3 13 1	0 6 9	0 3 7	4 3 5	9 8 9
1910	3 15 10	0 15 4	4 11 2	3 16 10	0 6 8	0 3 7	4 7 1	8 18 3
1911	3 8 6	0 14 9	4 3 3	4 2 6	0 7 1	0 3 9	4 13 4	8 16 7
1912	3 15 0	0 15 9	4 10 9	4 8 4	0 7 3	0 3 8	4 19 3	9 10 0
1913	3 14 1	0 15 9	4 9 10	4 15 9	0 7 3	0 3 9	5 6 9	9 16 7
1914	3 10 3	0 11 3	4 1 6	5 3 9	0 7 11	0 4 0	5 15 8	9 17 2
1915	3 13 4	0 10 6	4 3 10	5 2 6	0 8 5	0 4 1	5 15 0	9 18 10
1916	3 16 2	0 11 5	4 7 7	5 8 2	0 9 0	0 4 6	6 1 8	10 9 3

The expenses of general government include civil and legal expenditure, the cost of education, public works constructed out of the ordinary revenue, and also the interest payable where the proceeds of loans have been used to defray the cost of construction, together with the sinking fund instalments, transfers to Closer Settlement and Public Works Funds, and advances.

TRADING CONCERNS OF THE STATE.

The subjoined table shows the transactions of the State business and industrial undertakings during the year ended 30th June, 1916:—

Service.	Total Capital Expenditure From Loans, Public Works Fund, and Consolidated Revenue.	Revenue.	Expenditure.			Net Revenue.
			Working Expenses.	Interest, Sinking Fund, Depreciation and Reserves.	Total.	
Business Undertakings—	£	£	£	£	£	£
Railways and Tramways ..	83,027,652	9,000,502	7,233,151	2,873,998	10,107,149	(-) 116,647
Sydney Harbour Trust ..	7,975,736	489,722	144,072	275,697	420,669	69,063
Water Supply & S.—Metropolitan ..	13,856,945	844,664	297,598	485,697	773,195	71,469
Do Hunter District ..	1,015,175	98,089	32,164	35,919	68,083	30,006
Industrial Undertakings—	105,975,508	11,422,977	7,697,885	3,671,211	11,369,096	53,881
Observatory Hill, Resumed Area (Rocks), &c. ..	1,312,640	62,181	15,511	46,940	62,451	(-) 270
Brickworks—Homebush Bay ..	85,995	74,820	55,677	10,008	65,685	9,135
Botany ..	20,396	12,468	12,190	2,905	15,095	(-) 2,627
Joinery Works—Rozelle ..	25,612	35	785	1,035	1,820	(-) 1,785
State Clothing Factory ..	12,865	27,491	25,719	1,063	26,782	709
Housing Fund—Daceyville ..	123,046	5,706	509	4,867	5,376	330
Lime Works—Taree and Botany ..	14,580	602	43	1,109	1,152	(-) 550
Stone Quarry (Maroubra) ..	13,550	24,125	21,588	1,692	23,280	845
Building Construction ..	17,499	303,482	291,896	2,750	294,646	8,836
Monier Pipe Works, &c. ..	18,922	34,904	22,196	5,701	27,897	7,007
State Bakery ..	14,227	109,286	102,168	1,526	103,694	5,592
Blue Metal Quarries—Kiama and Port Kembla ..	80,095	98,955	82,912	9,352	92,264	6,691
Timber Yard, &c.—Uhr's Point ..	159,887	211,045	195,634	12,556	208,190	2,855
State Motor Garage ..	7,323	15,644	14,330	592	14,922	722
Power Station—Uhr's Point ..	32,595	5,684	4,538	3,144	7,682	(-) 1,998
Trawlers ..	56,153	30,808	37,007	4,798	41,796	(-) 10,988
Murrumbidgee Irrigation ..	3,417,813	30,202	37,986	129,616	167,602	(-) 137,400
Meat Industry (Metrop.) ..	901,600	31,976	19,960	*33,450	53,410	(-) 21,434
	6,323,798	1,079,414	940,649	273,095	1,213,744	(-) 134,330
Total ..	£ 112,299,306	12,502,391	8,638,534	3,944,306	12,582,840	(-) 80,449

* Estimated.

(—) Net expenditure.

With regard to the Murrumbidgee irrigation areas, on which a loss of £137,400 is shown for the year, the interest on the large capital expenditure accounts for nearly the whole of the deficit; but this will be decreased in future years, as the receipts from water rates, rents for leases, and other sources, will largely increase when the works are completed.

Some of the above services have been established by the Government recently, and the initial working expenses have been consequently somewhat heavy.

The following table shows the transactions of all the State trading concerns and industrial undertakings during the years 1907–1916:—

Year ended 30th June.	Capital Expenditure.	Revenue.	Expenditure.			Net Revenue.	Proportion of Net Revenue to Capital Expenditure.
			Working Expenses.	Interest, Sinking Fund, Depreciation, and Reserves.	Total.		
	£	£	£	£	£	£	per cent.
1907	66,529,101	6,479,703	3,460,945	2,268,701	5,729,646	750,057	1.14
1908	68,304,869	6,900,472	3,764,646	2,357,679	6,122,325	778,147	1.15
1909	70,688,419	7,046,585	4,160,641	2,401,566	6,562,207	484,378	0.70
1910	73,611,671	7,615,024	4,595,710	2,413,263	7,008,973	606,051	0.84
1911	76,638,228	8,428,818	5,153,728	2,551,760	7,705,488	723,330	0.96
1912	81,150,817	9,194,758	5,800,117	2,974,066	8,774,183	420,575	0.52
1913	87,156,379	9,964,935	6,980,391	3,125,531	10,105,922	(-) 140,987	(-) 0.16
1914	95,188,549	11,541,295	8,056,766	3,135,475	11,192,241	349,054	0.37
1915	101,265,111	11,861,098	8,128,891	3,429,486	11,558,377	302,721	0.30
1916	112,299,306	12,502,391	8,638,534	3,944,306	12,582,840	(-) 80,449	(-) 0.07

(—) Net expenditure.

TRUST FUNDS AND SPECIAL DEPOSITS.

The Trust Funds and Special Deposits form a very important division of the public finances, not only from the nature of the transactions and the volume of accumulated funds, but also by reason of the manner in which they are used in conjunction with the general finances of the State. To show the importance of these accounts, the following table has been compiled:—

As at 30th June.	Amount.	As at 30th June.	Amount.	As at 30th June.	Amount.
	£		£		£
*1871	213,340	1902	11,720,889	1910	2,743,156
*1876	851,571	1903	10,564,026	1911	4,522,915
*1881	1,671,183	1904	10,191,160	1912	5,547,741
*1886	2,702,486	1905	10,562,513	1913	6,134,067
*1891	4,997,055	1906	10,007,626	1914	5,341,000
1896	7,657,741	1907	2,359,665	1915	5,259,710
1900	10,103,940	1908	1,867,442	1916	5,601,471
1901	10,823,128	1909	2,575,757		

* As at 31st December.

The decrease in the amounts shown since 1906 is due to the removal of the securities belonging to the Government Savings Bank to the control of the Savings Bank Commissioners. As these securities are not now vested in the State Treasurer they are excluded from the Public Accounts.

The Trust Funds under the supervision of the State Treasurer are divided into two classes, viz.:—Special Deposits Account and Special Accounts. The total of all moneys under these headings on 30th June, 1916, was £5,601,471—viz., Special Deposits Account, £5,254,270, and Special Accounts, £347,201. The amount at credit of each account is shown in the following table:—

<i>Special Deposits Account.</i>	
	£
Government Savings Bank of New South Wales Deposit Account	3,112,514
Government Savings Bank of New South Wales Advance Deposit Account	190,000
State Debt Commissioners' Deposit Account	78,862
State Debt Trust Accounts	125,018
Public Works and Railway Construction Stores Advance Account	294,130
Fixed Deposits Account	328,660
Industrial Undertakings	101,608
Sundry Deposits Account	437,040
Municipal Council of Sydney, Sinking Funds	183,591
Government Railways Superannuation Account	26,900
Housing Fund	10,904
Treasury Guarantee Fund	21,546
Treasury Fire Insurance Fund	70,954
Sobraon Fund	10,000
Water and Drainage Loan Redemption Fund	34,566
Union Trustee Company of Australia, Limited	20,000
Government Dock, Newcastle—Suspense and Store Advance Accounts	11,146
Unclaimed Salaries and Wages Account	16,187
Public Trustee Unclaimed Balances	31,864
Norton Griffiths and Co.—Store Advance Account	79,386
Other Accounts—less than £10,000... ..	69,394
Total	£5,254,270
<i>Special Accounts.</i>	
	£
Master-in-Equity Account	70,048
Master-in-Lunacy Account	7,685
Public Trustee Account	220,500
Prothonotary Account	23,368
Registrar of Probates' Account	25,600
Total	£347,201
Grand Total, Special Deposits and Special Accounts, £5,601,471.	

The existence of a large account upon which the Treasurer is free to operate is of great assistance to the Consolidated Revenue, the Trust Funds and Special Deposits forming a strong reserve on which the Government may draw in time of need. The great bulk of the funds bear interest, whether invested or not; but the power to use the funds enables the Government to effect a large saving of the interest, which might otherwise be charged for accommodation from the banks.

Of the total sum of £5,601,471 at the credit of the Special Deposits and Special Accounts on 30th June, 1916, £62,307 was invested in securities; £4,411,889 was uninvested, but used in Advances and on Public Account at interest; while the remainder, £1,127,275, was similarly used, but without interest charge.

The rate of interest paid on 30th June, 1916, was 3 per cent., with the following exceptions:—

Crown Leases Security Deposit Account	...	...	...	4 per cent.
Government Savings Bank of N.S.W. Deposit Account	...	4 and 4½	„	
„ „ Advances Deposit Account	...	4	„	
Fixed Deposits Account	...	...	1 to 4	„
Municipal Council of Sydney (50 Vic., No. 13) Sinking Fund	...	4	„	
State Debt Commissioners' Deposit Account	...	4½	„	
Master-in-Equity and Master-in-Lunacy Accounts	...	1	„	

On 30th June, 1916, the Trust Funds in the custody of the State Treasurer were held thus:—

In Banks—	£
Special Deposits Account	5,191,963
Special Accounts	347,201
New South Wales Funded Stock	20,500
Treasury Bills	20,000
Fixed Deposit (Metropolitan Board of Water and Sewerage Trust Account)	1,250
Miscellaneous Securities	20,557
Total	£5,601,471

The total amount of interest received by the Treasury during the year ended, June, 1916, on bank deposits and other temporary investments of public moneys was £33,775.

TRUSTEES AUDIT ACT.

The Trustees Audit Act, 1912, empowers the Auditor-General, at the request of the Treasurer or of any Minister of the Crown, to examine and audit any books and documents relating to accounts of persons working shale or coal mines, or obtaining from land gold or other minerals in respect of which royalty is payable to the Crown; also the accounts of Pastures Protection Boards, Trusts under Water and Drainage Act, Schools of Art, Hospitals, and other institutions or persons in receipt of subsidy or assistance from the public funds. If it appears from such audit that any money has been applied improperly, or the provisions of Acts contravened, such transactions may be surcharged and disallowed, and the money misapplied deducted from future subsidies, or recovered as provided in the Acts. A large number of inspections were made during the year ended 30th June, 1916, and resulted in the discovery of defalcations in some cases.

NORTON GRIFFITHS & COMPANY.

Owing to the difficulty of obtaining loan moneys in London or in the Commonwealth during 1915, an agreement was made on the 24th April, 1915, between the above-mentioned firm, which has its headquarters in England, and the State Government, under which the Company undertook to carry out certain works for the State, the cost of which was estimated at £10,000,000. The principal works proposed to be constructed were:—

Railways—

City, including extensions to Eastern and Western Suburbs.
 Broken Hill to Condobolin.
 North Coast (various sections).
 Wagga Wagga to Tumbarumba.
 Forbes to Stockinbingal.
 Sydenham to Botany.
 Dubbo to Werris Creek.

Water Conservation—

Warragamba.
 Chichester.
 Enlargement of Main Canal—Northern Murrumbidgee scheme.

Harbour Works—

Coff's Harbour.

The company agreed to underwrite and assist in raising loans to the amount of £10,000,000, and the London County and Westminster Bank guaranteed the issues.

The works were to have been completed by the 5th November, 1920, and the amount to have been expended during the first and second years was £4,000,000, and £2,000,000 per annum in each succeeding year. The rate of commission payable to the contractors was 5 per cent. on the expenditure. Although the amount which should have been spent during 1915-16 was £4,000,000, as already stated, the actual payments only amounted to £1,112,000.

Owing to the difficulty of obtaining money and materials during the currency of the war, the works could not be carried out as originally intended, and the contract was consequently cancelled in April, 1917.

A fresh agreement was assented to, under which an amount of £360,000 is to be paid as commission on the £10,000,000, of which £65,000 was earned to the end of March, 1917, leaving £295,000 still to be paid for the guarantee and assistance in raising loans.

LOAN APPROPRIATIONS.

All items of expenditure to be met by loan are authorised under an Appropriation Act, in the same manner as the ordinary expenditure chargeable to the general revenue, and under the Inscribed Stock Act, 1902, the passing of the Loan Appropriation Act confers the power of raising the money required. There is a restriction on the expenditure of money, whether from loans or revenue, in the provisions of the Public Works Act. Under that Act, the question of constructing all works estimated to cost more than £20,000, except those connected with the maintenance of Railways, is referred by resolution of the Legislative Assembly to the Parliamentary Standing Committee appointed during the first Session of each Parliament. The Committee investigates and reports to Parliament, and the Assembly declares whether it is expedient to carry out the proposed work. If the declaration be favourable, a Bill based thereon must be passed before the authorisation is absolute.

Under the Loan Acts of 1894 to 1899 the principle of redemption from revenue is applied to expenditure on works whose value will disappear by the time the loan, out of the proceeds of which they were constructed, falls due.

The Loan Appropriations, in quinquennial periods since 1875, are given in the subjoined table, the amounts proposed to be expended on Public Works being distinguished from those required for redemption of previous loans:—

Period.	Amount authorised—		
	For Public Works and Services.	For Redemption of Loans.	Total.
	£	£	£
1875-9	10,708,768	.....	10,708,768
1880-4	26,457,803	.....	26,457,803
1885-9	11,123,394	2,113,800	13,237,194
1890-4	15,927,993	2,910,800	18,838,793
1895-9	13,661,046	2,275,200	15,936,246
1900-4	17,690,893	2,841,612	20,532,505
1905-9	10,509,590	7,480,054	17,989,644
1910-14	22,649,240	2,549,350	25,198,590
1915	7,560,702	.....	7,560,702
1916	5,851,480	.....	5,851,480

RAILWAYS LOAN ACCOUNT.

The Railways Loan Account was opened under the authority of Act No. 4, 1910, and subsequent Acts passed in the years 1913 and 1915, increased to £8,000,000 the maximum amount which could be borrowed. This account is applied to meet the cost of duplicating portions of the main trunk lines of railways and other works in that connection.

The following are the transactions for the year 1915-16:—

Receipts—	£	Net Expenditure—	£
Balance brought forward from		Duplications—	
1914-15	232,597	Main Suburban Line ...	71
Proceeds of Sales—		Southern Line	702,573
Treasury Bills	2,383,333	Western Line	301,670
Repayment to Votes on account of previous years ...	1,198	Northern Line	78,371
		South Coast Line	145,550
			1,228,235
		Credit Balance carried forward to 1916-17 ...	1,388,893
	£2,617,128		£2,617,128

LOAN ACCOUNTS.

The following figures show the amount of loans raised from the commencement of the Loan Account, in 1853, to 30th June, 1916, and the proceeds available for expenditure, including the moneys credited to the Railways Loan Account:—

Treasury Bills, Debentures, Inscribed and Funded Stock sold to 30th June, 1916	£191,244,436
Discount, interest, bonus, and charges	5,258,711
Net amount raised	£185,985,725
Add net amount transferred from Consolidated Revenue to make good amount short-raised	176,767
	£186,162,492
Less Treasury Bills in aid of Revenue not placed to Loan Account ...	4,769,653
„ Proceeds of old loans not included in Loan Accounts	724,733
„ Amounts over-raised and not placed to Loan Account	48,760
	£5,543,146
Net amount available for works, &c.	£180,619,346

As the foregoing statement shows, a sum of £191,244,436 has been raised by loan to 30th June, 1916, in connection with which the discount, interest, bonus, and other charges amounted to £5,258,711, leaving £185,985,725 available for expenditure. The effective value of this latter amount was reduced by the sum of £5,543,146 (utilised as shown on the previous page); so that taking into account £176,767 transferred from Consolidated Revenue, the net amount available for works, &c., was £180,619,346.

At 30th June, 1916, £60,730,418 had been redeemed, £9,519,705 being a charge on the Consolidated Revenue, leaving £130,514,018 outstanding at the close of the last financial year. The aggregate amount of interest paid by the State on loans to 30th June, 1916, was £94,268,952, the charge during the last financial year being £4,552,765.

The uses to which the available sum of £180,619,346 was applied are shown in the following table. The sum of £51,210,713 for redemption of loans is included in the total; this amount was not, of course, an item of expenditure, but its inclusion is necessary to account fully for the total of £183,723,175, in which the original loans, as well as the redemption loans, were included:—

Expended on—	£	£
Reproductive Works:—		
Railways... ..	73,395,819	
Tramways	8,646,118	
Water Supply	10,140,816	
Sewerage... ..	7,527,058	
Sydney Harbour Trust	7,589,028	
Darling Harbour Wharves Resumptions	1,300,702	
Industrial Undertakings	506,791	
Partly Productive Works:—		109,106,332
Conservation of Water, Artesian Boring, &c.	4,672,323	
Harbours and Rivers—Navigation	5,529,989	
Roads and Bridges	1,835,940	
Housing Fund	130,000	
		12,168,252
Public Buildings and Sites	6,658,008	
Immigration	569,930	
Public Works in Queensland prior to separation	49,855	
		7,277,793
Commonwealth Services—		
Construction of Telegraph and Telephone Lines	1,297,582	
Post and Telegraph Offices	464,262	
Fortifications and Defence Works	1,457,536	
Lighthouses	144,288	
Customs Buildings	48,880	
Quarantine Buildings	18,099	
Government Dockyard—Cockatoo Island	502,988	
Naval Victualling Stores—Darling Harbour	26,450	
		3,960,085
Redemptions:—		£132,512,462
Loans repaid under various Acts, &c.	24,017,813	
Treasury Bills for Loan Services repaid	27,192,900	
		51,210,713
		£183,723,175
Add Credit Balance of Railways Loan Account		1,388,893
Total		£185,112,068
Less Debit Balance, General Loan Account	£4,234,205	
„ „ „ Loans Expenditure Suspense Account	122,246	
„ „ „ Other Accounts (details not available)	136,271	
		4,492,722
Total		£180,619,346

The sum actually expended from loans on public services was, therefore, £132,512,462, the balance to make up the total of £183,723,175, being represented by redemptions. Analysing the above amounts, the following shows the allocation of the items of Loan Expenditure:—Reproductive Works, 82 per cent.; partly productive works, 9 per cent.; other, 6 per cent.; Commonwealth services, 3 per cent.

The loan expenditure on account of the various services during each of the last four years has been as follows:—

Head of Service.	1913.	1914.	1915.	1916.
	£	£	£	£
Railways	3,614,306	4,903,328	4,394,318	4,787,669
Tramways	1,004,661	811,636	296,590	195,963
Water Supply and Sewerage—				
Water Supply	517,146	606,521	621,021	760,693
Sewerage	445,774	428,133	381,095	389,593
Water Conservation and Irrigation	632,173	907,843	365,544	385,078
Harbours, Wharves, and Docks	682,502	856,468	684,368	995,741
Rivers	*4,247	3,443	*433	8,593
Dredges, Punts, &c.	*2,075	3,016	1,296	957
Roads and Bridges	1,451	23,703	8,609	421
Public Works, Buildings, &c.—				
Educational	*60	10,830	16,905	8,792
Public Instruction, School Buildings, &c.	235,005	228,397	*21,103	*17,532
Public Abattoirs, Homebush	58,205	82,480	315,510	201,669
Other	116,881	17,075	83,824	35,279
Closer Settlement	300,000	.....	*300,000	.....
Pastures Protection Boards for wire-netting	3,012	2,318	*174	*5,733
Roads of access to Crown Lands	*251	.....	.....	.....
Promotion of Agriculture ... ..	.....	.....	48,188	28,956
Industrial Undertakings	99,111	241,653	115,613	81,229
Shires and Municipalities for Works ... ..	.....	.....	17,310	*10,457
Advances to Settlers for Wheatgrowing... ..	.....	.....	6,026	48,683
Advances to Settlers for Financial Assistance ... ..	.....	.....	.....	12,446
Site of Horse-breeding Farm ... ..	.....	.....	.....	53,389
Dockyard and Workshops, Newcastle—				
Stores and Materials ... ..	.....	.....	.....	50,000
Advances in connection with Agreement with Norton Griffiths & Co., including Stores, &c. ... ..	.....	.....	.....	141,175
Mines—Great Cobar, Ltd.—Certificates taken up by Government ... ..	.....	.....	.....	40,000
Public Works Fund—Amount recouped...	.....	.....	*39,000	*19,500
Total Expenditure on Public Works, &c. £	7,703,594	9,126,844	6,996,107	8,173,104
Loans repaid by New Loans (including Treasury Bills)	3,940,778	757,772	8,864,654	2,814,025
Total	£ 11,644,372	9,884,616	15,860,761	10,987,129

* Excess repayments to credit of votes over expenditure.

It will be seen that the bulk of the proceeds of loans has been well utilised, as most of the works will be self-supporting, and they have materially assisted in developing the State's resources, and enhanced largely the value of the public estate.

The loan expenditure, exclusive of payments on account of redemptions, conversions, and renewals, since 1842, is shown below:—

Year.	During each period.		At the end of each period.	
	Amount.	Per Inhabitant.	Amount.	Per Inhabitant.
	£	£ s. d.	£	£ s. d.
1842-1890	.....	.....	43,955,551	39 3 7
1891-1895	11,683,598	9 18 10	55,639,149	44 9 8
1896-1900	8,832,106	6 15 0	64,471,255	47 12 1
1901-1905	16,297,655	11 12 11	80,768,910	55 10 9
1906-1910	10,579,736	6 16 9	91,347,723	56 11 11
1911-1915	33,239,406	18 14 0	124,339,358	66 10 9
1916	8,173,104	4 7 6	132,512,462	71 7 10

The difference between the actual Loan Expenditure shown in the previous table, and the Public Debt stated below, is due to the fact that the outstanding debt represents the gross amount sold, while the expenditure is the net amount, after deducting discount and expenses of flotation, and allowing for balances of Loan Accounts.

THE PUBLIC DEBT.

The public debt outstanding at each quinquennial period is given in the subjoined table:—

Year.	Amount.	Year.	Amount.	Year.	Amount.
	£		£		£
1842	49,500	1870	9,681,130	1900	65,332,993
1845	97,900	1875	11,470,637	1905	82,321,998
1850	132,500	1880	14,903,919	1910	92,525,095
1855	1,000,800	1885	35,564,259	1915	127,735,405
1860	3,830,230	1890	48,383,333	1916	130,514,018
1865	5,749,630	1895	58,220,933		

The following table shows the position of the Public Debt as at the end of each year during the last decennium. The amount of bonds or stock sold has been placed against the year in which the sales were effected, and not against the year in which they were brought to account:—

Year ended 30th June.	Authorised to date.	Raised.	Redeemed.			Public Debt on 30th June.	
			From Consolidated Revenue and Sinking Fund.	From General Loan Account, including Renewals.	Total.	Total.	Per Inhabitant.
	£	£	£	£	£	£	£ s. d.
1907	130,341,313	113,686,633	6,728,771	21,350,030	28,078,801	85,607,832	56 7 10
1908	139,512,294	120,029,343	7,425,887	24,967,630	32,393,517	87,635,826	56 15 7
1909	140,192,315	126,241,736	7,725,887	28,208,430	35,934,317	90,307,419	57 6 7
1910	146,305,227	132,466,258	8,231,066	31,709,097	39,940,163	92,525,095	57 6 6
1911	153,188,227	138,797,372	8,475,887	34,797,559	43,273,446	95,523,926	57 9 9
1912	159,512,197	143,662,006	8,775,887	34,833,484	43,609,371	100,052,635	57 10 9
1913	169,186,717	154,464,714	9,519,705	38,774,262	48,293,967	106,170,747	58 13 9
1914	183,018,817	165,746,770	9,519,705	39,532,034	49,051,739	116,695,031	62 16 10
1915	207,445,569	185,651,798	9,519,705	48,396,688	57,916,393	127,735,405	68 7 1
1916	220,603,887	191,244,436	9,519,705	51,210,713	60,730,418	130,514,018	70 6 4

In former years the State Government depended largely upon the London market for its loans, but during recent years, until the outbreak of the Great War in August, 1914, the requirements were met to a much

greater extent locally, as will be seen from the following table, which shows the Public Debt on each register for the ten years ended 30th June, 1916. Stocks may be transferred at any time from London to Sydney:—

Year ended 30th June.	Registered in London.		Registered in Sydney.		Total Public Debt.
	Amount.	Proportion to Total Debt.	Amount.	Proportion to Total Debt.	
	£	per cent.	£	per cent.	£
1907	63,914,150	74·66	21,693,682	25·34	85,607,832
1908	64,600,860	73·71	23,034,966	26·29	87,635,826
1909	67,073,905	74·27	23,233,514	25·73	90,307,419
1910	67,154,805	72·58	25,370,290	27·42	92,525,095
1911	65,555,605	68·63	29,968,321	31·37	95,523,926
1912	67,525,305	67·49	32,527,330	32·51	100,052,635
1913	73,740,413	69·45	32,430,334	30·55	106,170,747
1914	83,499,113	71·55	33,195,918	28·45	116,695,031
1915	86,167,288	67·46	41,568,117	32·54	127,735,405
1916	87,153,587	66·78	43,360,431	33·22	130,514,018

From the above figures it will be noted that the amount of liabilities held locally at the close of the financial year 1915-16 amounts to nearly one-third of the total indebtedness.

The next table shows the annual payments under each head for interest and expenses of the Public Debt since 1907:—

Year ended 30th June.	Interest.	Redemptions.	Expenses connected with management of Inscribed Stock.	Commission paid to Financial Agents in England and New South Wales.	Total Interest and Charges paid.	
					Total.	Per Inhabitant.
	£	£	£	£	£	£ s. d.
1907	3,047,618	405,090	21,143	1,645	3,475,496	2 5 10
1908	2,986,844	406,145	21,143	5,641	3,419,773	2 4 0
1909	3,039,539	478,791	20,501	3,046	3,541,877	2 4 10
1910	3,117,472	421,034	18,894	4,621	3,562,021	2 4 4
1911	3,227,315	409,349	19,095	4,159	3,659,918	2 4 8
1912	3,430,096	436,921	19,088	2,918	3,889,023	2 5 11
1913	3,516,233	450,602	19,990	1,511	3,988,336	2 4 10
1914	3,881,011	5,632	21,171	1,039	3,908,853	2 2 8
1915	4,125,600	5,688	21,394	1,492	4,154,174	2 4 8
1916	4,552,765	6,504	21,705	848	4,581,822	2 9 0

The average rate of interest on the whole debt at the end of the financial year 1916 was 3·71 per cent.

The Public Debt is partly funded and partly unfunded, the funded debt comprising debentures, inscribed and funded stocks, and Treasury bills constituting the unfunded portion. The amounts outstanding and annual interest payable on 30th June, 1916, were as follows:—

Description of Stock.	Amount outstanding, 30th June, 1916.	Annual Interest payable.
	£	£
Debentures—		
Matured	6,250	.....
Still bearing interest	9,617,000	412,910
Stock—		
Matured	300	.....
N. S. W. 4 per cents.	530,189	21,207
,, 1924 Stock	198,065	5,942
,, 1925 „	222,255	6,668
Inscribed and Funded Stock	109,215,522	3,946,334
 Total, Funded Debt... ..	 £119,789,581	 £4,393,061
Treasury Bills—		
For Public Works	8,932,900	375,290
Renewals	1,791,537	80,619
 Total, Unfunded Debt	 £10,724,437	 £455,909
 Total, Public Debt	 £130,514,018	 £4,848,970

The following table shows the total amount of stock and bills outstanding, at each rate of interest, and the annual interest payable thereon:—

Interest—Per cent.	Amount of Stock and Bills.	Annual Interest payable.
	£	£
5	2,215,550	110,735
4½	10,612,437	477,560
4½	7,400,000	305,250
4	29,418,540	1,176,513
3½	13,514,098	506,779
3½	50,306,321	1,760,721
3	17,047,073	511,412
 Total	 £130,514,018	 £4,848,970

The total stock and bills shown in the foregoing table include £6,550 not now bearing interest, viz.:—£850 floated at 5 per cent., and £5,700 at 4 per cent. It must also be stated that the rate given for the £7,400,000 outstanding, viz., 4½ per cent., is approximate only, as the actual rate has not been definitely fixed.

DATES OF MATURITY.

The dates of repayment extend from 1916 to 1962, and the sums repayable in the different years vary considerably, as will be seen from the following table, which shows the due dates and amounts repayable in London and Sydney:—

Due Date.	Registered in—		Total.
	London.	Sydney.	
	£	£	£
Overdue	5,450	1,100	6,550
1916 ... ..	.....	828,667	828,667
1917 ... ..	.....	8,053,683	8,053,683
1918	12,649,317	176,883	12,826,200
*1919	30,000	11,203,995	11,233,995
1920	2,470,000	2,835,137	5,305,137
1921 ... ..	.....	5,150,143	5,150,143
1922	4,400,000	100,000	4,500,000
†1923	1,500,060	6,355,432	7,855,432
1924	16,464,545	233,520	16,698,065
1925 ... ..	.....	311,799	311,799
‡1927	5,000,000	.....	5,000,000
1933	9,583,775	102,525	9,686,300
1935	12,475,800	24,200	12,500,000
\$1950	12,073,500	176,500	12,250,000
¶1962	10,500,000	.....	10,500,000
Interminable	1,200	531,689	532,889
||Indefinite ... ..	.....	7,275,158	7,275,158
Total	87,153,587	43,360,431	130,514,018

* Includes £120,050 redeemable on or after 4th April, 1919, at option of Government, on giving twelve months' notice. † Includes £1,900,000 redeemable whole, or in part, on or after 1st July, 1921, at Government option, on giving three months' notice. ‡ Redeemable after 1st July, 1922, in whole or in part, on Government giving three months' notice. § Redeemable after 1st July, 1930, on Government giving six months' notice. ¶ Redeemable after 1st July, 1942, on Government giving six months' notice. || Minimum date expired—redeemable at option of Government, on giving twelve months' notice.

COST OF RAISING LOANS.

The charges incidental to the issue of loans in London are heavy. Operations are conducted by the Bank of England and by the London and Westminster Bank. The former charges $\frac{1}{2}$ per cent. per £100 stock on all loan issues, and £350 per million annually for the inscription and management of stock, including the payment of the half-yearly dividends, while the latter charges $\frac{1}{4}$ per cent. and £150 per million respectively for similar services. In Sydney the Bank of New South Wales and the Commercial Banking Company of Sydney (Limited), transact all Government banking business. The former acts as Financial Agent for the State in Victoria, and also undertakes the payment of the half-yearly dividends on Local Debentures and Funded Stock. The Treasury, however, in local loan issues, directly conducts the operations connected with the issue of New South Wales Funded Stock and Treasury Bills, and no local loan has been underwritten.

The subjoined statement gives the charges for negotiation of the loans floated during the period from 1904-5 to 1915-16, inclusive of the accrued interest and bonuses allowed to investors:—

Year when Floated.	Amount of Principal.	Gross Proceeds.	Charges, etc.					Expenses per £100 of Gross Proceeds.
			Stamp Duty.	Bank Commission.	Paid to Investors—Interest Bonus and Discount Bonus.	Brokerage, Underwriting, Postage, and Petty Expenses.	Total.	
	£	£	£	£	£	£	£	£ s. d.
Issued (in London) as Debentures.								
1904-5	1,000,000	1,990,000	2,500	5,000	737	30,272	38,509	1 18 8
1904-5	1,000,000							
1912-13	4,500,000	4,425,000	5,625	11,250	4,360	68,743	80,978	2 0 8
1914-15	*5,000,000	4,975,000	20,810	12,500	9,015	75,891	118,216	2 7 6
1914-15	*2,000,000	1,990,000	2,500	5,000	.....	30,662	38,162	1 18 4
1915-16	2,000,000	1,980,000	†	†	†	†	†	†
Issued (in Sydney) as Debentures.								
1904-5	131,100	131,100	nil.	nil.	nil.	nil.	nil.	nil.
1914-15	410,000	410,000	nil.	nil.	nil.	nil.	nil.	nil.
1915-16	90,000	90,000	nil.	nil.	nil.	nil.	nil.	nil.
Issued (in Sydney) as Funded Stock.								
1905-6	1,328,346	1,328,346	Nil			2,735	2,735	0 4 1
1906-7	2,826,382	2,826,382				5,283	5,283	0 8 9
1907-8	3,342,710	3,342,710				7,372	7,372	0 4 5
1908-9	462,393	462,393				666	666	0 2 10
1909-10	3,473,523	3,473,523				4,927	4,927	0 2 10
1910-11	6,332,113	6,332,113				6,811	6,811	0 2 2
1911-12	2,864,634	2,864,634				2,327	2,327	0 1 8
1912-13	2,552,709	2,552,709				4,622	4,622	0 3 7
1913-14	532,056	532,056				1,300	1,300	0 4 11
1914-15	718,522	718,522				nil.	nil.	nil.
1915-16	4,707	4,707				nil.	nil.	nil.
Issued (in London) as Inscribed Stock.								
1905-6	2,000,000	1,990,000	12,500	5,000	19,102	30,491	67,093	3 7 5
1907-8	3,000,000	3,000,000	18,750	7,500	40,148	45,858	112,251	3 14 10
1908-9	1,500,000	1,462,500	9,375	3,750	12,230	23,302	48,657	3 6 7
	3,000,000	2,955,000	18,750	7,500	29,691	45,398	101,339	3 8 7
1909-10	2,750,000	2,667,500	17,187	6,875	22,154	42,131	88,347	3 6 3
1912-13	3,000,000	2,985,000	18,750	7,500	9,334	46,220	81,804	2 14 10
1913-14	4,500,000	4,342,500	28,125	11,250	27,740	69,385	136,500	3 2 10
	3,000,000	2,970,000	18,750	7,500	27,733	45,885	89,868	3 7 3

* Floated as Debentures, but portion subsequently converted into Stock. † Not available—raised in January, 1916, part of proceeds only brought to account on 30th June, 1916.

The Sydney sales take place at the Treasury on the basis of £100 cash for every £100 of stock, and a commission of $\frac{1}{2}$ per cent. is allowed when a broker is engaged. The average cost of negotiation for all issues since 1905 did not exceed 3s. 1d. per cent., whilst the charges for London loans, with the additional $1\frac{1}{2}$ per cent. for underwriting, averaged £1 16s. 3d. for debentures and £3 5s. 9d. for inscribed stock.

STOCK QUOTATIONS, 1914-15.

The average market prices of stock in London and Sydney are shown in the subjoined table for each month of the year 1915-16:—

Date.	London—Average Market Price.				Sydney—Average Market Price.				
	4½ per cent. Stock.	4 per cent. Stock.	3½ per cent. Stock.	3 per cent. Stock.	4½ per cent. Stock.	4 per cent. Stock.	3½ per cent. Stock.	3½ per cent. Stock.	3 per cent. Stock.
1915.	£				£	£	£	£	£
July ...	*.....				*.....	98	95½	86½	71
August ...	*.....				*.....	98	96	88	70
September ...	*.....				98¾	97¾	*.....	84¾	65
October ...	*.....				*.....	97¾	92	85½	63½
November ...	96¾				98	*.....	93½	82½	63½
December ...	95¾		No Quotations.		96¾	98	93½	82	63
1916.									
January ...	96¾				97¼	98½	92½	80	63
February ...	94¾				*.....	96¾	92½	83	63
March ...	94¾				97½	95	93½	*.....	63
April ...	94				*.....	96¼	91½	*.....	63
May ...	94				97¾	96½	94¾	*.....	64½
June ...	94¼				97¼	95¾	93½	*.....	64½

* No quotations.

REDEMPTIONS AND SINKING FUNDS.

Under the provisions of the State Debt and Sinking Fund Act, 1904, a Board called the "State Debt Commissioners" was constituted, consisting of the Treasurer, the Chief Justice, the Speaker of the Legislative Assembly, and the Under Secretary for Finance and Trade, to administer, from 1st July, 1905, various Trust Accounts and balances at credit of certain Special Accounts in connection with the Treasury Bills Deficiency Acts of 1895, 1900, and 1901, the Railway Loan Redemption Act of 1899, and the Sinking Funds created by various Loan Acts passed from 1894 to 1899. That Act provides for a general sinking fund, and an annual appropriation of £350,000 is paid to the credit of the fund, together with such further amount as Parliament may provide. Under the Treasury Bills Deficiency Act, 1905, an additional £50,000 must be transferred to the fund whenever the operations of a financial year leave a sufficiently large surplus to enable this to be done. The Commissioners apply the amount at credit of the fund in purchasing, redeeming, or paying-off Government stock, debentures, or Treasury bills; and they are empowered to invest the moneys under the Act. The State Debt and Sinking Fund (Amendment) Act, 1914, provides that where at the close of a year there is a deficiency on the Consolidated Revenue Account the Commissioners shall repay any amount, not being greater than such deficiency, which has been issued from the fund to the Commissioners during the year.

The transactions under the Act for the financial year ended 30th June, 1916, were as follow:—

RECEIPTS.						£
Annual Contribution from Consolidated Revenue Fund	...	...	...	...	...	350,000
Repayments—						
Country Towns Water Supply	...	...	...	...	...	3,369
Country Towns Sewerage	...	...	...	...	...	1,004
Closer Settlement under Crown Lands Act of 1895	...	...	...	...	...	6,504
Interest on Funded Stock	...	...	...	...	...	12,862
Interest on Deposit with Colonial Treasurer	...	...	...	...	...	1,609
Total Receipts	...	...	...	...	...	375,348
Balance brought forward from 1914-15	...	...	...	...	...	414,264
						<u>£789,612</u>
EXPENDITURE.						
Repayments—						
Annual contribution from Consolidated Revenue Fund (in terms of section 2 of State Debt and Sinking Fund Amendment Act, 1914)	...	...	...	...	...	350,000
Balance carried forward—						
Invested in N.S.W. Funded Stock	...	...	...	...	360,686	
On Deposit with Colonial Treasurer	...	...	...	...	78,862	
On Account Current	...	...	...	...	64	
						<u>439,612</u>
Total	...	...	...	...	...	<u>£789,612</u>

CHARACTER OF STOCK ISSUED.

As previously stated, loans have been raised by Treasury bills, debentures, and stock. The Treasury bills are of a temporary character, and will in the course of a few years disappear from the statement of the Public Debt, either by substitution of ordinary stock when the temporary purpose for which they were issued has been served, or by redemption on maturity. The practice of issuing Treasury bills, either in anticipation of, or to make good, deficiencies in revenue, is of long standing; but, as will be seen later on, it has been made to serve another purpose, and money has been raised by their sale to meet certain obligations for public works and redemptions when the money market has been disturbed. The amount of Treasury bills current on 30th June, 1916, was £8,932,900 for Public Works, and £1,791,537 for Renewals, making a total of £10,724,437, the whole of which will be redeemed at the close of 1921.

The issue of funded or registered stock is regulated by four acts passed in the years 1873, 1892, 1894, and 1895. The amount issued under the act of 1873 (£530,189) is interminable, but that issued under the more recent acts may be repaid before the final due dates at the option of the Government, on the Treasurer giving from three to twelve months' notice of his intention to redeem.

SECURITY FOR THE PUBLIC DEBT.

In the foregoing pages much has been said of the indebtedness of the State. It is, therefore, appropriate to say something of the resources on which the State's creditors may rely as security for repayment; but before examining the nature of these resources it may be well to recapitulate the liabilities outstanding. On 30th June, 1916, these were as follows:—Public Debt—Debentures, £9,623,250; Inscribed and Funded Stock, £110,166,331; Treasury Bills, £10,724,437; total Public Debt, £130,514,018.

This total amount might reasonably be lessened by the sum of £1,533,106 shown below, representing the amount spent on services, which is to be repaid in annual instalments of principal and interest by the parties benefited by the expenditure:—

	£
Country Towns Water Supply	937,529
Country Towns Sewerage	269,790
Water Trusts	182,389
Drainage Trusts	82,941
Other Advances	60,457
Total	<u>£1,533,106</u>

There is also the property transferred to the Commonwealth, on which interest is paid by the Commonwealth at $3\frac{1}{2}$ per cent. per annum. The value of this property is £3,960,085, on which a sum of £166,203 was received by the State as interest in 1915-16. The total amount of the Public Debt might therefore be reduced by about £5,493,000.

The principal assets of the State are its trading concerns (railways, tramways, water supply, &c.), and the public lands, of which 117,870,422 acres are leased for pastoral or mining purposes, and 18,315,095 acres sold on deferred payments. The gross revenue derived from the public lands of the State in the year ended 30th June, 1916, was £1,892,577, distributed under the following headings:—Alienation, £46,419; Conditional Purchases, £1,017,827; Pastoral Leases, £506,619; Mining Leases, &c., including royalty on minerals, £138,174; Miscellaneous Land Receipts, £183,538. The balance of purchase money outstanding on 31st December, 1915, in regard to conditional purchases, amounted to £10,723,140.

EXPENDITURE BY STATE ON IMMIGRATION.

In view of the interest taken in the matter of expenditure towards promoting immigration and advertising the State, the following return has been prepared to show the amounts spent during the years 1832 to 1916:—

Period.	Amount.	Period.	Amount.	Period.	Amount.
	£		£		£
1832-50	1,192,193	1903	.....	1911	32,786
1851-60	1,261,255	1904	.....	1912	59,186
1861-70	278,980	1905	.....	1913	69,656
1871-80	395,536	1906	1,226	1914	33,158
1881-90	533,849	1907	8,079	1915	24,501
1891-1900	14,200	1908	13,184	1916	13,571
1901	.....	1909	22,436		
1902	245	1910	26,815		

It should be noted that the amounts expended from revenue and loans cannot be stated separately, as in the earlier years the proceeds of loans were credited to Consolidated Revenue, and part of the immigration expenses was defrayed from "Territorial Revenue," which was a distinct account.

In regard to Immigration, the Commonwealth Government spends sums of money in advertising the attractions of Australia generally.

Further particulars relating to the Encouragement of Immigration may be found in the part of this Year Book dealing with Employment and Industrial Arbitration.

FINANCIAL RELATIONS BETWEEN STATES AND COMMONWEALTH.

One of the most difficult problems to be solved in formulating a constitution for the Commonwealth of Australia was met in the determination of the relative shares of the Commonwealth and States respectively in the proceeds of taxation from Customs and Excise. Each of the two governing powers was invested with authority to levy direct taxation, consequently no difficulty arose in this respect, but the power to impose tariffs through Customs and Excise duties was vested in the Commonwealth Parliament. Hence it became necessary to decide some proportion of the revenue derivable from these sources of indirect taxation which should constitute by legal right the share of the States *qua* States in these imposts. In the issue of this Year Book for 1913 the financial relations between the States and the Commonwealth were discussed fully, and a statement presented showing the degree to which the Customs and Excise taxation serve to fulfil Commonwealth requirements. Information was given also regarding the relative magnitude of functions of State and Commonwealth Government.

POPULATION.

EARLY ENUMERATIONS.

INFORMATION regarding the population from the foundation of New South Wales in 1788, when Governor Phillip landed with 1,035 persons, until the first census in 1828, depends on the records of the enumerations or "musters," which were taken at frequent intervals for the proper maintenance of official supervision, for the allocation of the labour of prisoners, and for the distribution of provisions in times of drought and scarcity—influences adverse to the growth of New South Wales, which for many years was very slow.

The following table shows, as nearly as can be ascertained, the population of New South Wales, including Norfolk Island, at quinquennial intervals from the end of the year 1790 until the year 1825:—

Year.	Population.	Year.	Population.
1790	2,800	1810	10,100
1795	4,500	1815	13,300
1800	6,200	1820	25,300
1805	7,400	1825	33,500

Only the totals are given, for the "musters" supplied very scanty details, and the sexes of the children were unstated.

The first census was taken during the month of November in the year 1828, the result being a total of 36,598 persons, of whom 27,611 were males and 8,987 females, which shows a large preponderance of the male sex.

The slow growth during the forty years to which the previous figures relate, was followed by a rapid increase in population, induced by the steady development which resulted from the progressive public policy inaugurated during the governorship of Sir Richard Bourke, and from the expansion of settlement which followed the opening of the country by exploration. A system of assisted immigration was introduced on a scale of annually increasing dimensions, and attained definite strength in the year 1832, so that at the end of 1833 the population had increased to 61,000, being an advance of 27,500 on the number for the year 1825, or by 82 per cent. during the period of eight years.

The enumerations shown below are those for the Colony of New South Wales within the boundaries existing at the time of taking the census:—

Date of Census.	Males.	Females.	Total.	Increase.	
				Number.	Per cent.
1828, November ...	27,611	8,987	36,598	.....	...
1833, 2 September ...	44,644	16,150	60,794	24,196	66.1
1836, 2 September ...	55,539	21,557	77,096	16,302	26.8
1841, 2 March ...	87,298	43,558	130,856	53,760	69.7
1846, 2 March ...	114,769	74,840	189,609	58,753	44.9
1851, 1 March {	Incl. Victoria } 155,845	112,499	268,344	78,735	41.5
	Excl. Victoria } 109,643	81,356	190,999	... ..	...
	Victoria ...				
1856, 1 March ...	150,488	119,234	269,722	78,723	41.2

With the rapid expansion of settlement a great demand for labour was created, and the high rates of wages attracted a large influx of unassisted immigrants. The most powerful factor in promoting the development of Australia was, however, the discovery of rich gold-fields in 1851.

Victoria was founded in July, 1851, by the separation of the District of Port Phillip, with a population of 77,345, from New South Wales. For purposes of comparison, the population at the census of 1851 has been shown in the above table, both inclusive and exclusive of Victoria.

After the census year of 1856 there was yet another reduction in the territory of New South Wales, when in 1859 Queensland, with a population of 16,907, was separated.

A further, though comparatively small reduction in area took place on 1st January, 1911, when the Federal Capital Territory was transferred to the Commonwealth.

CENSUS ENUMERATIONS, 1861-1911.

At the census taken in New South Wales on 7th April, 1861, the ascertained population was 350,860. Thereafter the numbers were determined decennially, and the last census was taken on 3rd April, 1911, when the population had increased to 1,648,746. This number does not include the population of the Federal Capital Territory, which at the census of 1911 numbered 997 males and 727 females, 1,724 persons, of whom 10 were aborigines. The population of New South Wales at each census period from 1861 to 1911 is stated below, also the estimated population as at 31st December, 1915. Aboriginal natives are included, except for 1861, when they were not enumerated; their number in 1911 was 2,012 (1,152 males and 860 females).

Year.	Males.	Females.	Total.	Increase since previous Census.
1861	198,488	152,372	350,860	.....
1871	275,551	228,430	503,981	153,121
1881	411,149	340,319	751,468	247,487
1891	612,562	519,672	1,132,234	380,766
1901	712,456	646,677	1,359,133	226,899
1911	858,850	789,896	1,648,746	289,613
1915	953,162	917,253	1,870,415	221,669

The relative increase from census to census, may be measured according to the several methods shown in the following statement. In the first column, the population in 1861 is taken as a basis:—

Year.	Index Number of Population.	Increase since previous Census.		Persons per square mile.
		For period.	Average annual rate.	
		per cent.	per cent.	
1861	100	.....	.....	1.12
1871	144	43.64	3.69	1.61
1881	214	49.11	4.08	2.41
1891	323	50.67	4.19	3.64
1901	387	20.04	1.84	4.38
1911	470	21.31	1.95	5.32
1915	533	13.44	2.69	6.04

In 1861 the number of persons per square mile was 1·1, in 1891 it was 3·6, and in 1915 it was 6·0.

The following statement gives the population of each State of the Commonwealth at the last census, in comparison with the estimated population as at 31st December, 1915, and the average annual rate of increase during the period. The figures are exclusive of full-blood aborigines:—

State.	Census Population, 1911.	Estimated Population, December, 1915.	Proportion in each State.		Average Annual Rate of Increase since Census, 1911.
			1911.	1915.	
			per cent.	per cent.	per cent.
New South Wales ...	1,646,734	1,868,403	36·96	37·90	2·69
Victoria	1,315,551	1,417,801	29·53	28·75	1·59
Queensland	605,813	678,675	13·60	13·76	2·42
South Australia ...	408,558	439,660	9·17	8·92	1·56
Western Australia ...	282,114	318,668	6·33	6·46	2·60
Tasmania	191,211	201,025	4·29	4·08	1·06
Northern Territory ...	3,310	4,563	·08	·09	6·99
Federal Capital Territory	1,714	1,829	·04	·04	1·38
Commonwealth ...	4,455,005	4,930,624	100·00	100·00	2·16

The average annual increase of the Commonwealth since the census of 1911 has been 2·16 per cent. The rate was highest in New South Wales, 2·69 per cent., and Western Australia ranks next with 2·60 per cent.; Tasmania showed the lowest rate, 1·06 per cent. The population of New South Wales in 1915 represented 37·90 per cent. of the population of Australia, as compared with 36·96 per cent. in 1911.

SEX DISTRIBUTION.

The number of males in New South Wales has always exceeded the number of females. In the early days the disparity was very marked, but there has been a gradual tendency towards an equal sex distribution. The distribution of the sexes at each census since 1861 was as follows:—

Year.	Proportion of Males.	Proportion of Females.	Males per 100 Females.
	per cent.	per cent.	No.
1861	56·57	43·43	130
1871	54·67	45·33	121
1881	54·86	45·14	121
1891	54·14	45·86	118
1901	52·42	47·58	110
1911	52·09	47·91	109
*1915	50·96	49·04	104

* Estimate.

From 1871 to 1881 the proportion of males remained constant at about 55 per cent., but immigration was checked towards the end of the next decade, and in 1891 the proportion of males had decreased slightly. During the following period there was very little immigration, and in 1901 the difference between the sexes had become less than at any previous period, the proportion of males being 52·42 per cent., or 110 males to every 100 females.

According to official estimates, the proportion of males remained fairly constant from 1901 to 1907, but since that year it has decreased; at the census of 1911, the percentages were—males 52·09, females 47·91, or 109 males to every 100 females. At the end of the year 1915 it is estimated that there were 104 males per 100 females.

ESTIMATES OF POPULATION.

Reliable estimates of the population are required during the intercensal periods for many purposes affecting the welfare of the community. Apart from its value as the standard by which other statistics are measured, the population is used as the basis of important political and financial arrangements between the Government of the Commonwealth and the individual States, as, for instance, in the distribution amongst the States of the representation in the Federal Parliament, and in the determination of the amount of revenue to be paid back to each State by the Commonwealth.

The elements of increase of the population are the excess of births over deaths, which is termed "natural increase," and the excess of immigration over emigration. The registers of births and deaths ensure a reliable return of the natural increase, but it is unfortunate that the records of arrivals and departures are defective, as in a young and progressive country the element of migration is extremely variable.

The records of overland migration are not perfect, but they give with fair accuracy the gain or loss to the State across its borders. In the case of the sea traffic, however, the returns are less reliable, as there are persons whose departure is not recorded. The usual practice has been to assume that arrivals as recorded are correct, and to add to the recorded departures, as an allowance for the unrecorded, a certain percentage of those departures based on the experience of the preceding intercensal period. This method is not altogether satisfactory, as when the census is taken it is found that the estimate differs more or less from the census figure, and it becomes necessary to adjust the estimated populations of all the years between census enumerations, so that they may not appear incompatible with census results.

At different periods Conferences of the Statisticians of the several States of the Commonwealth have been held for the purpose of devising a uniform method of estimating population.

The estimated population of New South Wales, including aborigines, at the end of each of the last ten years, was as follows; the population of the Federal Capital Territory has been excluded since 1st January, 1911:—

Year.	Estimated Population at end of Year.			* Annual Increase.		Mean Population.
	Males.	Females.	Total.	Numerical.	Per cent.	
1906	779,666	718,943	1,498,609	29,456	2·00	1,484,600
1907	795,635	736,345	1,531,980	33,371	2·23	1,517,9·0
1908	809,240	750,786	1,560,026	28,046	1·83	1,545,700
1909	829,329	767,356	1,596,685	36,659	2·35	1,577,200
1910	852,680	785,540	1,638,220	41,535	2·60	1,616,200
1911	889,391	809,345	*1,698,736	62,240	3·80	1,664,500
1912	935,979	842,983	1,778,962	80,226	4·72	1,738,600
1913	962,749	869,707	1,832,456	53,494	3·01	1,809,400
1914	967,033	894,995	1,862,028	29,572	1·59	1,853,400
1915	951,585	917,253	1,870,415	8,387	0·45	1,868,200

* Exclusive of 1,721 persons, the population of the Federal Capital Territory.

SOURCES OF INCREASE.

The following statement shows the extent to which each source contributed to the growth of the population during the census periods from 1861; in calculating the increase from 1901 to 1911, the population of the Federal Capital Territory has been taken into consideration, and aborigines are included :—

Period.	Increase.			Average Annual Rate of Increase.		
	By excess of Births over Deaths.	By excess of Immigration over Emigration.	Total Increase.	By excess of Births over Deaths.	By excess of Immigration over Emigration.	Total.
				per cent.	per cent.	per cent.
1861-71	106,077	47,044	153,121	2·68	1·27	3·69
1871-81	140,382	107,105	247,487	2·49	1·95	4·08
1881-91	211,301	169,465	380,766	2·51	2·05	4·19
1891-1901	226,676	223	226,899	1·84	...	1·84
1901-11	247,865	43,472	291,337	1·69	·32	1·96
1911 (April-Dec.)	22,923	27,067	49,990	1·85	2·19	4·04
1912	33,107	47,119	80,226	1·95	2·77	4·72
1913	32,402	21,092	53,494	1·82	1·19	3·01
1914	34,838	(—) 5,266	29,572	1·90	(—) ·29	1·61
1915	33,275	(—) 24,888	8,387	1·79	(—) 1·34	0·45

(—) Denotes an excess of Emigration.

The rate of natural increase fell steadily throughout each intercensal period, and reached its lowest point in 1903, when it was only half the average annual rate during the period 1861-71. The fall was caused by the declining birth-rate, as the death-rate has shown constant improvement. Since 1903, however, the rate of natural increase has risen, and in 1912 it was the highest since 1893. The high rate was not maintained in 1913, but in 1914 the rate was much above the previous decennium.

The year 1891 saw a cessation of immigration, and for the next decade the population progressed only by reason of the natural increase, as the excess of arrivals was only 223. The balance of migration was, moreover, affected by the rush of men to Western Australia after the discovery of gold in 1894, and by the departure of over 5,000 troops to the war in South Africa, from 1899 to 1901. After the war the troops returned to New South Wales, and in 1905 State assistance to immigrants was restored; consequently the experience of 1901-11 was an improvement on that of the ten years prior to 1901. The excess of emigrants in the years 1914 and 1915 is due to the despatch of troops to the European war; and to the practical cessation of assisted immigration which was a natural sequence.

MIGRATION.

The next table shows the arrivals in, and departures from, New South Wales by sea and by land during the last ten years, allowance being made for those unrecorded :—

Year.	Arrivals.			Departures.		
	By Sea.	By Land.	Total.	By Sea.	By Land.	Total.
1906	79,465	113,870	193,335	75,421	114,431	189,852
1907	101,125	140,213	241,338	90,748	143,004	233,752
1908	101,589	143,570	245,159	93,521	150,027	243,548
1909	106,310	144,199	250,509	92,504	149,275	241,779
1910	111,525	163,691	275,216	96,514	166,509	263,023
1911	141,667	193,458	340,125	111,295	197,038	308,383
1912	163,788	221,609	385,397	125,010	213,268	338,278
1913	146,749	234,441	381,190	125,184	234,914	360,098
1914	143,143	237,016	400,159	145,937	259,488	405,425
1915	110,098	275,955	386,053	141,194	269,747	410,941

The large movement of population each year can hardly be described as immigration or emigration in the popular sense in which those terms are used, as it is due largely to the arrival and departure of tourists and business men. Of the total movement, 80 per cent. is with the other Australian States, and one-third of the movement with countries outside Australia is with New Zealand.

The net gain of population from various countries during the last ten years is shown in the following table :—

Year.	Australian States	New Zealand.	United Kingdom.	India.	Other British Possessions.	Foreign Countries.	Total.
1906 ...	2,673	531	852	...	(—) 842	269	3,483
1907 ...	2,610	387	3,288	...	1,119	182	7,586
1908 ... (—)	1,465	(—) 1,529	3,070	..	1,715	(—) 180	1,611
1909 ... (—)	4,547	5,228	8,291	(—) 98	(—) 1,368	1,224	8,730
1910 ... (—)	1,394	5,163	8,703	92	(—) 1,015	644	12,193
1911 ...	5,710	8,415	15,380	191	(—) 844	2,890	31,742
1912 ...	13,034	7,005	25,278	187	(—) 2,071	3,686	47,119
1913 ...	2,094	2,517	17,316	186	(—) 2,390	1,369	21,092
1914 ...	1,528	2,077	4,510	40	(—) 873	(—) 12,548	(—) 5,266
1915 ...	13,133	110	793	464	(—) 36,882	(—) 2,506	(—) 24,888

(—) Signifies loss.

Since the revival of the assisted immigration policy in 1905 there has been a steadily increasing excess of arrivals from the United Kingdom, amounting in 1912 to 25,278. Owing to great improvement in labour conditions in Great Britain and keener competition among Oversea Dominions for British emigrants the gain from the United Kingdom in 1913 was less than in 1912; during 1914, in consequence of the war, the addition to the population from this source numbered only 4,510; in 1915 the number of assisted immigrants had dwindled to 1,695, and practically ceased at the end of the year.

STATE-ASSISTED IMMIGRATION.

Recognising the need of a much more rapid increase in population, in order to develop the vast resources and latent wealth of the country, the State Government, prior to the outbreak of the present great European war, made

arrangements for the systematic advertisement throughout the United Kingdom of the advantages offered to immigrants. The cost of the passage to desirable settlers was partly paid by Government; and residents of New South Wales were enabled to arrange, by nomination, assisted passages for relatives and friends.

Under an agreement with the States, the Federal Government co-operated in the scheme by undertaking the advertisement of the resources of Australia, while the selection of immigrants was conducted by the representatives of the individual States, which also arranged the assisted passages.

The number of persons assisted to immigrate since 1st January, 1906, is shown hereunder:—

Year.	Total Assisted Immigrants.			Nominated by Relatives or Friends in New South Wales (included in preceding).		
	Males.	Females.	Total.	Males.	Females.	Total.
1906	...	...	590	...	...	114
1907	...	...	2,917	...	...	490
1908	...	...	3,048	...	...	1,237
1909	...	...	4,308	...	...	1,979
1910	3,039	2,017	5,056	1,406	1,530	2,936
1911	5,880	4,042	9,922	3,647	3,279	6,926
1912	8,361	6,595	14,956	5,205	5,477	10,682
1913	4,181	5,682	9,863	3,336	4,999	8,335
1914	2,463	3,161	5,624	1,574	2,440	4,014
1915	589	1,106	1,695	496	825	1,321

Full details relating to assisted immigration are shown in the chapter "Employment and Industrial Arbitration" of this Year Book.

LENGTH OF RESIDENCE IN AUSTRALIA.

Figures derived from the census returns show the population of New South Wales at 2nd April, 1911, exclusive of aborigines of full-blood, classified according to length of residence in Australia:—

Length of Residence in Australia.				Males.	Females.	Total.
Years.						
0—4	...	...	...	31,686	15,190	46,876
5—9	...	...	...	6,724	3,147	9,871
10—14	...	...	...	7,142	3,265	10,407
15—19	...	...	...	7,610	4,597	12,207
20—24	...	...	...	18,856	12,417	31,273
25—29	...	...	...	26,943	17,545	44,488
30—34	...	...	...	17,030	9,926	26,956
35—39	...	...	...	7,043	3,820	10,863
40—44	...	...	...	4,954	3,112	8,066
45—49	...	...	...	6,766	4,901	11,667
50—54	...	...	...	7,393	6,038	13,431
55—59	...	...	...	7,081	6,182	13,263
60—64	...	...	...	1,953	1,990	3,943
65—69	...	...	...	754	820	1,574
70—74	...	...	...	919	923	1,842
75 and over...	...	...	...	143	196	339
Unspecified...	...	...	...	12,965	9,484	22,449
Australian-born	...	...	...	691,736	685,483	1,377,219
Total	...	...	...	857,698	789,036	1,646,734

The rise and fall of immigration, as noted previously, are reflected in this table, which shows that, exclusive of the Australian born, persons who had resided in Australia less than five years, that is, those who arrived since 1905, outnumbered those in any other five-years period; the next in numerical order were those who arrived during the years 1881-6, and whose period of residence was from 25-29 years. On the other hand, persons whose period of residence was from 5-9 years were exceeded by those in every other period up to 40 years.

DISTRIBUTION OF POPULATION.

The distribution of population, as estimated at 31st December, 1915, in various divisions—the metropolitan area, the country municipalities, the shires, and the unincorporated part of the Western Division—is shown below; also the proportion in each Division and the average population per square mile:—

Division.	Area.	Estimated Population, 1915.		
		Total.	Proportion in each Division.	
	sq. miles.		per cent.	per sq. mile.
Sydney	5	104,200	5·6	20,840·0
Suburbs	180	658,800	35·2	3,660·0
Metropolis	185	763,000	40·8	4,124·3
Country Municipalities	2,853	456,000	24·4	159·8
*Shires	180,531	635,280	34·0	3·5
Western Division (Part unincorporated).	125,893	16,028	·8	·1
Lord Howe Island	5	107	·0	21·4
Total, New South Wales ...	309,467	1,870,415	100·0	6·0

* The Ku-ring-gai Shire, area 33 sq. miles, population 14,060, is included with Suburbs of Metropolis.

The population of the Metropolis represents nearly two-fifths of the total population; one-quarter resides in the country municipalities, and over one-third in the other incorporated areas.

The area of the Federal Capital Territory transferred to the Commonwealth on 1st January, 1911, is about 900 square miles; at the last census the population, exclusive of aborigines, was 1,714 persons, or 1·9 per square mile. At 31st December, 1915, the estimated population was 1,829.

POPULATION OF THE METROPOLIS.

The Metropolis includes Sydney, the forty municipalities which surround it, and the Ku-ring-gai Shire, as well as the islands of Port Jackson, and embraces an area of 185 square miles. The boundaries may be described roughly as follows: on the east, the sea-coast; on the south, the waters of Botany Bay and George's River; on the west, by the western boundaries of Hurstville, Canterbury, Enfield, Strathfield, Homebush, Concord, and Ryde; on the north, by the northern boundaries of Eastwood and Ryde, the western and eastern boundaries of Ku-ring-gai Shire, the north-

eastern boundary of Willoughby, and the northern boundary of Manly. The habitations within these limits are fairly continuous. The following statement shows, at the census of 1911, and on 31st December, 1915, the population of each municipality of the metropolis, and of the Ku-ring-gai Shire :—

Municipality.	Population.		Municipality.	Population.	
	Census, April, 1911.	Estimated 31st Dec., 1915.		Census, April, 1911.	Estimated 31st Dec., 1915.
City of Sydney*...	119,771	104,200	Manly ...	10,465	13,950
Alexandria ...	10,123	11,580	Marrickville ...	30,653	37,560
Annandale ...	11,240	12,590	Mascot ...	5,836	8,530
Asbfield ...	20,431	27,610	Mosman ...	13,243	17,070
Balmain ...	32,038	33,840	Newtown ...	26,498	28,250
Bexley ...	6,517	10,420	North Sydney ...	34,646	41,250
Botany ...	4,409	5,710	Paddington ...	24,317	26,350
Burwood ...	9,380	12,480	Petersham ...	21,712	24,190
Canterbury ...	11,335	24,380	Randwick ...	19,463	32,200
Concord ...	4,076	6,340	Redfern ...	24,427	25,460
Darlington ...	3,816	3,920	Rockdale ...	14,095	19,880
Drummoyne ...	8,678	13,530	Ryde ...	5,281	9,060
Eastwood ...	968	1,400	St. Peter's ...	8,410	10,720
Enfield ...	3,444	5,570	Strathfield ...	4,046	5,550
Erskineville ...	7,299	7,810	Vaughan ...	1,672	2,430
Glebe ...	21,943	23,110	Waterloo ...	10,072	11,350
Homebush ...	676	1,030	Waverley ...	19,831	27,330
Hunter's Hill ...	5,013	5,700	Willoughby ...	13,036	20,600
Hurstville ...	6,533	10,400	Woollahra ...	16,989	20,260
Kogarah ...	6,953	12,370	Ku-ring-gai Shire	9,458	14,060
Lane Cove ...	3,306	4,880			
Leichhardt ...	24,254	28,080	Total ...	636,353	763,000

* Includes shipping and islands of Port Jackson.

The metropolitan population is unevenly distributed. At the census of 1911 two-fifths of the inhabitants resided within an area of less than 7,000 acres, having a density from 30 to 90 per acre, while one-third occupied about 24,000 acres, with an average density of 10, and the remainder were scattered over about 88,000 acres, having a density of a little over 1 per acre.

The population of the metropolis at census periods and the estimated population on 31st December, 1915, are shown in the following table, where the increasing proportion which the metropolitan population bears to that of the whole State will be observed :—

Year.	Census Population.			Males per 100 Females.	Percentage of Population of Whole State.
	Males.	Females.	Total.		
1871	68,266	70,913	139,179	96·21	27·62
1881	114,936	112,230	227,166	102·41	30·23
1891	197,550	189,884	387,434	104·04	34·22
1901	241,700	246,232	487,932	98·16	35·90
1911	312,074	324,279	636,353	96·24	38·55
1915	.....	.....	*763,000	.....	40·79

* Estimated, 31st December.

POPULATION OF CHIEF CITIES.

In Australia.

A comparison of the population of the chief cities (including suburbs) of each State of the Commonwealth is shown below :—

Metropolis.	Census, 1911.			Estimated Population, 31st Dec., 1915.	Proportion of Population of whole State.
	Males.	Females.	Total.		
Sydney	305,728	323,775	629,503	763,000	40·88
Melbourne	277,956	311,015	588,971	684,000	48·24
Brisbane	67,628	71,852	139,480	161,938	23·80
Adelaide	90,578	99,068	189,646	209,450	47·64
Perth	53,231	53,561	106,792	.....*	37·85†
Hobart	18,487	21,450	39,937	39,838	19·82

* Census 1911 results are the latest available. † As at census.

The census populations given above are exclusive of shipping, and for this reason the population of Sydney differs from that shown in the previous table.

In Other Countries.

The population of the chief cities of the United Kingdom and other countries is given in the subjoined table, in which the most recent figures available are quoted :—

City.	Year.	Population.	City.	Year.	Population.
London (Greater) ...	1912	7,252,963	Moscow	1913	1,694,900
Liverpool	1914	767,992	Constantinople ...	1909	1,200,000
Manchester	1914	973,513	Budapest	1914	950,784
Birmingham	1914	868,430	Brussels	1914	780,852
Glasgow	1914	1,047,000	Amsterdam	1914	597,888
Edinburgh	1914	321,900	Madrid	1910	571,539
Dublin (Registration Area)	1914	406,000	Copenhagen	1911	559,398
Belfast	1914	399,000	Rome	1914	591,943
Montreal	1913	600,060	Tokio	1912	2,099,181
Calcutta	1911	1,222,313	Pekin	1912	692,500
Paris	1912	2,847,229	New York	1914	5,583,871
Berlin	1912	2,083,931	Chicago	1914	2,393,325
Vienna	1914	2,149,834	Buenos Aires	1913	1,487,642
Petrograd	1912	2,018,596	Rio de Janeiro ...	1914	983,259

COUNTRY DISTRICTS OF NEW SOUTH WALES.

In the opening stages of the history of New South Wales settlement followed the main roads, but with the establishment of the railway, the population settled within reach of the railway lines. In the coastal area, where the bulk of the people dwells, the development of the towns has more than kept pace with the general population. Thus, in the Valley of the Hunter, with its large agricultural and mining industries, population has made rapid strides. Newcastle and suburbs, for instance, increased from 7,810 in 1861 to 54,991 in 1901, and the estimated population in 1915 was 58,750. Though Wollongong has increased considerably in population, the Illawarra District as a whole, notwithstanding its rich deposits of coal and the fertility of its pasture-lands, has stagnated, if not declined; whilst the

dairy, maize, and sugar-growing districts of the Clarence and Richmond Rivers have increased generally in their urban population. A number of industrial works have been established around Lithgow, which has become an important centre of the western coalfields, and the site of a small-arms and munitions factory. On 31st December, 1915, the country districts contained 1,107,415 inhabitants, or 59·2 per cent. of the total estimated population.

The next statement shows, at the Census of 1911, and at 31st December, 1915, the population of the country municipalities of New South Wales containing more than 2,000 inhabitants:—

Municipality.	Census, 1911.	Estimated Dec., 1915.	Municipality.	Census, 1911.	Estimated Dec., 1915.
Albury	6,309	6,500	Lithgow	8,196	9,500
Armidale	4,738	5,250	Liverpool	3,933	3,950
Auburn	5,559	10,700	† Maitland	11,313	11,850
Ballina	2,061	2,800	Moree	2,931	3,100
Bankstown	2,039	2,500	Mudgee	2,942	3,000
Bathurst	8,575	8,650	Murrumburrah ...	2,136	2,350
Bega	1,969	2,050	Murwillumbah ...	2,206	3,100
Broken Hill	30,972	28,350	Narrabri	3,320	2,500
Casino	3,420	4,250	Narrandera	2,374	2,600
Cobar	4,430	3,000	Newcastle, includ- ing Suburbs.	55,380	58,750
Cooma	2,063	2,100	Orange	6,721	7,200
Coonamble	2,262	2,550	Parkes	2,935	3,300
Cootamundra ...	2,967	3,200	Parramatta	12,465	12,600
Corowa	2,063	2,150	Penrith	3,682	3,750
Cowra	3,271	3,850	Prospect and Sher- wood.	3,932	4,900
Deniliquin	2,494	2,500	Quirindi	2,240	2,500
Dubbo	4,452	4,700	Singleton	2,996	3,000
Forbes	4,436	5,200	Smithfield and Fair- field.	2,226	3,000
Glen Innes	4,080	4,400	Tamworth	7,145	7,750
Goulburn	10,023	10,100	Temora	2,784	3,300
Grafton	5,888	* 5,300	Tenterfield	2,792	2,900
Granville	7,231	10,900	Wagga Wagga ...	6,419	7,000
Gunnedah	3,005	3,300	Wellington	3,958	4,250
Hay	2,461	2,400	Windsor	3,466	3,450
Inverell	4,549	5,150	Wollongong	4,660	5,300
Junee	2,531	2,700	Yass	2,136	2,150
Katoomba	4,923	6,500	Young	3,139	3,400
Kempsey	2,862	3,100			
Lidcombe	5,418	7,900			
Lismore	7,351	8,000			

* With South Grafton, 6,700. † East and West.

Of these municipalities not one is densely populated, the most closely inhabited, excluding the city of Newcastle and its suburb of Wickham, having only 7 persons per acre. Amongst the municipalities which show considerable increases since 1911 are Casino, Lismore, Ballina, and Murwillumbah, on the Northern Rivers; Newcastle and Maitland, in the Hunter River District; Auburn, Granville, Lidcombe, Prospect and Sherwood, and Smithfield and Fairfield, in the metropolitan county of Cumberland; Armidale and Inverell, on the Northern Tableland; Cowra, Katoomba and Lithgow, on the Central Tableland; Tamworth, on the North-Western Slope; Forbes, on the Central-Western Slope; and Temora and Wagga Wagga, on the South-Western Slope.

Auburn, Granville, Newcastle, Lidcombe, Katoomba, and Lithgow have increased their populations in numbers ranging from 1,300 to 5,000, Auburn almost doubling its habitancy in a period of less than five years. The increases in the towns of the North Coast ranged from 600 to 500, and were due to

the closer occupation of dairy farms and maize-growing holdings. Newcastle's accretion was that of a port to a progressive coal-mining hinterland, and Maitland's accretion that of a centre to newly developing coal-mining areas. Wollongong's additional population of over 600 inhabitants resulted from its increasing usefulness as a coaling port. Armidale, Inverell, Cowra, Tamworth, Forbes, Wagga Wagga, and Temora are situated in districts where the cultivation of wheat and other crops is steadily extending, Lithgow is a rising industrial centre, and Katoomba is a popular tourist and health resort in the Blue Mountains.

Prospect and Sherwood, Smithfield and Fairfield, Lidcombe, Bankstown, Auburn, and Granville, six ultra-suburban municipalities, are all within a radius of 20 miles from the metropolis. They are devoted to small culture, market-gardens, vineyards, tanneries, sawmills, quarries, pottery works, brick-making, meat-preserving, poultry-farming, bee-keeping, various manufacturing industries, engineering establishments, and railway workshops, and contain a population of about 40,000 inhabitants.

An account of the movement of population throughout the State, and its proportional settlement, according to its urban and rural elements in the different Counties, Divisions, and Territorial Areas of New South Wales, will be found in the second part of this chapter.

AGE DISTRIBUTION.

The table below shows the number of persons, exclusive of aborigines, at each quinquennial period of age up to 85 years, as at the census of 1911, in comparison with the ages at the previous census. The population of the Federal Capital Territory is excluded in 1911:—

Age-Group.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Years.						
0—4... ..	80,308	78,553	158,861	102,003	98,863	200,866
5—9... ..	84,189	81,946	166,135	85,137	83,120	168,257
10—14... ..	81,582	80,097	161,679	79,136	77,998	157,134
15—19... ..	70,423	70,736	141,159	82,981	81,015	163,996
20—24... ..	62,448	64,818	127,266	87,314	82,850	170,164
25—29... ..	56,273	56,043	112,316	76,430	72,390	148,820
30—34... ..	52,596	46,697	99,293	64,228	59,896	124,124
35—39... ..	52,335	41,593	93,928	55,121	50,708	105,829
40—44... ..	44,930	33,436	78,366	50,940	43,455	94,395
45—49... ..	33,338	24,001	57,339	46,638	37,583	84,221
50—54... ..	25,615	19,327	44,942	39,345	29,964	69,309
55—59... ..	19,634	15,376	35,010	27,544	20,905	48,449
60—64... ..	16,733	12,192	28,925	20,023	16,352	36,375
65—69... ..	13,005	9,237	22,242	15,370	13,014	28,384
70—74... ..	7,772	5,202	12,974	10,611	8,585	19,196
75—79... ..	3,578	2,844	6,422	6,658	5,242	11,900
80—84... ..	1,883	1,574	3,457	2,719	2,223	4,942
85 and over ...	800	678	1,478	1,010	1,070	2,080
Unspecified ...	2,563	491	3,054	4,490	3,803	8,293
All Ages ...	710,005	644,841	1,354,846	857,698	789,036	1,646,734

In 1911 the males were in excess of the females in every age-group up to 85 years. At the previous census there were more females of 15-19 years. In 1901 there were more males than females over 85 years; but in 1911 the females preponderated. According to the census of 1911 there was very little difference between the sexes at each year of age up to 21, but the males were more numerous in each group with the exception of that of 12 years.

The age constitution of the people has altered materially since 1901. The results of the census of that year show that the largest number at any age period was from 5 to 9 years, and the number in the first group—under 5 years—was also exceeded by the total between 10-14 years. At the census of 1911, the group under 5 years was numerically the greatest; the group 20-24 years ranks next, followed by 5-9 years; then 15-19 years. In the group 10-14 years, the actual number of both sexes decreased during the decade.

The following statement shows the proportion per cent. of the total population and of both sexes in each age-group :—

Age-Group.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Years.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
0—4	11·31	12·18	11·73	11·96	12·59	12·26
5—9	11·86	12·71	12·26	9·98	10·59	10·27
10—14	11·49	12·42	11·93	9·28	9·93	9·59
15—19	9·94	10·97	10·43	9·72	10·32	10·01
20—24	8·89	10·07	9·45	10·23	10·55	10·38
25—29	8·01	8·70	8·34	8·96	9·22	9·08
30—34	7·45	7·25	7·36	7·53	7·63	7·58
35—39	7·41	6·46	6·96	6·46	6·46	6·46
40—44	6·35	5·19	5·80	5·97	5·53	5·76
45—49	4·71	3·73	4·24	5·47	4·79	5·14
50—54	3·62	3·00	3·33	4·61	3·82	4·23
55—59	2·77	2·39	2·59	3·23	2·66	2·96
60—64	2·36	1·89	2·14	2·34	2·08	2·22
65—69	1·84	1·44	1·65	1·80	1·65	1·73
70—74	1·10	·80	·96	1·24	1·09	1·17
75—79	·51	·44	·47	·78	·67	·73
80—84	·27	·25	·25	·32	·28	·30
85 and over ...	·11	·11	·11	·12	·14	·13
All Ages ...	100·00	100·00	100·00	100·00	100·00	100·00

In this comparison it will be seen that the percentage of the population contained in the groups from 5-19 years of both sexes was less in 1911 than at the previous census; and in the case of the males, there has also been a proportionate decrease in the groups 35-44 years, and from 60-69 years.

The following statement shows the population arranged in certain conventional groups; in order to account for the whole population the unspecified have been distributed among the specified :—

Age-group.	Number.			Proportion per cent.		
	Males.	Females.	Total.	Males.	Females.	Total.
Years.						
0—4	102,179	99,014	201,193	11·91	12·55	12·22
5—14	164,555	161,365	325,920	19·19	20·45	19·79
15—64	554,306	498,293	1,052,599	64·63	63·15	63·92
65 and over	36,658	30,364	67,022	4·27	3·85	4·07
Total	857,698	789,036	1,646,734	100·00	100·00	100·00
School age, 6—13	130,128	127,925	258,053	15·17	16·21	15·67
Adults, 21 and over... ..	490,240	430,557	920,797	57·16	54·57	55·92
Military age, 18—44	370,632	.....	.....	43·21	.....	.....
Reproductive age, 15—44 ... ..	.....	392,692	.....	.....	49·77	.....

The adults represented 55·9 per cent. of the population and the children of statutory school age 15·7 per cent. as compared with 51·7 per cent., and 19·5 per cent. respectively in 1901.

BIRTHPLACES.

The great majority of the inhabitants of New South Wales are of British origin; at the last census, out of a total of 1,635,916 persons whose birth-places were ascertained, 1,603,287, or 98 per cent. were returned as having been born in the British Empire.

The following statement shows the birthplaces of the people at the census of 1911 in comparison with the figures obtained at the previous census. Aboriginal natives of full-blood have been excluded :—

Birthplace.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Australasia—						
New South Wales	487,039	490,137	977,176	608,517	610,340	1,218,857
Victoria	30,358	25,661	56,019	42,701	34,835	77,536
Queensland	7,097	7,871	14,968	11,018	12,275	23,293
• South Australia	11,981	10,078	22,059	13,005	11,189	24,194
Western Australia	450	437	887	1,253	1,229	2,482
Tasmania	3,722	3,855	7,577	5,209	5,112	10,321
• Northern Territory ... ..	.....	.....	.....	12	5	17
Australia (undefined)	239	229	468	10,021	10,498	20,519
	540,880	538,268	1,079,154	691,736	685,483	1,377,219
New Zealand	5,425	5,164	10,589	7,296	6,607	13,903
	546,311	543,432	1,089,743	699,032	692,150	1,391,182
Europe—						
England (including Isle of Man)	76,187	49,930	126,117	75,015	47,448	122,463
Wales	2,254	1,368	3,622	2,791	1,591	4,382
Scotland	18,566	12,151	30,717	19,408	11,857	31,260
Ireland	30,463	29,482	59,945	24,098	22,558	46,656
Other European British Possessions	92	50	142	495	268	763
Austria-Hungary	594	73	667	520	116	636
Belgium	104	34	138	90	89	129
Denmark	1,150	216	1,366	1,083	214	1,297
France	1,354	433	1,787	935	412	1,347
Germany	6,344	2,288	8,632	5,323	1,918	7,241
Greece	357	35	392	764	58	822
Italy	1,243	334	1,577	1,332	391	1,723
Netherlands	191	21	212	202	35	237
• Norway	3,010	180	3,190	964	68	1,032
Portugal	120	8	128	77	7	84
Russia	1,022	240	1,262	1,218	318	1,536
Spain	65	39	104	90	44	134
• Sweden ... ..	.....	.....	.....	1,679	118	1,797
Switzerland	363	91	454	340	102	442
Other European Countries	60	23	83	134	50	184
	143,539	96,996	240,535	136,553	87,612	224,165

* The figures for South Australia include the Northern Territory; those for Norway include Sweden.

Birthplace.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Asia—						
British India and Ceylon ...	2,413	544	2,957	1,895	554	2,449
Other Asiatic British Possessions ...	130	30	160	200	59	259
China ...	9,890	103	9,993	7,509	100	7,609
Japan ...	161	17	178	125	14	139
Syria ...	467	272	739	448	307	755
Other Asiatic Countries ...	167	23	190	209	43	252
	13,228	989	14,217	10,386	1,077	11,463
Africa—						
*Mauritius ...	167	89	256	145	95	240
Union of South Africa ...	203	127	330	272	232	504
South Africa (undefined) ...	73	66	139	554	503	1,057
Other African British Possessions ...	26	9	35	28	10	38
Other African Countries ...	180	54	234	88	42	130
	649	345	994	1,087	912	1,999
America—						
Canada ...	820	243	1,063	852	280	1,132
Other American British Possessions ...	342	97	439	191	55	246
United States ...	2,156	908	3,064	1,844	890	2,734
Other American Countries ...	144	71	215	224	88	312
	3,462	1,319	4,781	3,111	1,313	4,424
Polynesia—						
Fiji ...	180	138	318	227	249	476
Other Polynesian British Possessions ...	72	42	114	90	60	150
New Caledonia ...	123	81	204	114	129	243
Other Polynesian Islands ...	432	103	535	245	90	335
	807	364	1,171	676	528	1,204
At Sea ...	1,100	867	1,967	817	662	1,479
Unspecified ...	909	529	1,438	6,036	4,782	10,818
Total ...	710,005	644,841	1,354,846	857,698	789,036	1,646,734

* The figures for Mauritius include the Seychelles at the 1901 census.

The natives of the British Empire resident in New South Wales at the census of 1911 numbered 1,603,287, as compared with 1,316,097 in 1901; and the proportions of specified birthplaces were 98·0 per cent. and 97·2 per cent. at the respective periods,

The Australasian-born increased from 1,089,743, to 1,391,182 during the decade, or from 80·5 per cent. to 85·1 per cent. of the total specified birthplaces. Of the other British, the most numerous were the English-born, 122,463; and the Irish, 46,656; both have decreased since the previous census. The natives of Scotland and Wales numbered 31,260 and 4,382 respectively, and slightly increased during the period.

In 1901 the foreign-born population numbered 35,344 persons, or 2·6 per cent., but had decreased to 31,150 persons, or 1·9 per cent., at the census of 1911. At the latter date the Europeans numbered 18,641 persons, including natives of Germany, 7,241; Sweden, 1,797; Italy, 1,723; France, 1,347; Denmark, 1,297; Russia, 1,536; and Norway, 1,032. The Greeks increased from 392 to 822; but, with the exception of smaller increases in those born in Italy, Netherlands, Russia, and Spain, the foreign natives of other European countries have decreased since 1901.

Of the foreign Asiatics the most numerous were the natives of China, 7,609; Syria, 755; and Japan, 139. In 1901 the Chinese numbered 9,993; the Syrians, 739; and the Japanese, 178. Persons born in the United States of America numbered 2,734, and had decreased from 3,064 in 1901.

Males comprised over 82 per cent. of the foreign-born population.

The proportions of British and foreign-born inhabitants at each census since 1891 are shown below, the percentage of both sexes in 1911 appearing separately:—

Birthplace.	1891.	1901.	1911.		
			Males.	Females.	Total.
British—	per cent.	per cent.	per cent.	per cent.	per cent.
New South Wales	64.58	72.20	71.45	77.82	74.51
Victoria	3.63	4.14	5.01	4.44	4.74
Queensland ... ..	.91	1.11	1.29	1.56	1.43
South Australia (including Northern Territory)	1.58	1.63	1.53	1.4 ² ₃	1.48
Western Australia ... ..	.04	.06	.15	.16	.15
Tasmania ... ..	.52	.56	.61	.65	.63
Australia (undefined) ... ..	.08	.03	1.18	1.34	1.26
New Zealand ... ..	.80	.78	.86	.85	.85
England and Wales	13.74	9.59	9.13	6.25	7.75
Scotland	3.28	2.27	2.28	1.51	1.91
Ireland	6.68	4.43	2.83	2.88	2.85
Other British Possessions ... ..	.44	.44	.58	.31	.45
	96.28	97.24	96.90	99.20	98.01
Foreign—					
Germany ... ..	.85	.64	.63	.24	.44
Other European	1.07	.84	1.11	.25	.70
China	1.17	.74	.88	.01	.47
Other Asiatic ... ..	.04	.08	.09	.05	.06
African ... ..	.03	.02	.01	.01	.01
American ... ..	.32	.24	.24	.12	.19
Polynesian ... ..	.06	.05	.04	.03	.03
	3.54	2.61	3.00	.71	1.90
At Sea ... ..	.18	.15	.10	.09	.09
Total (excluding unspecified) ...	100.00	100.00	100.00	100.00	100.00

The natives of New South Wales increased from 64.6 per cent. to 74.5 per cent. during the period under review, and the proportions from each of the other States, except South Australia, were larger than in 1891. The percentage of natives of the United Kingdom decreased from 23.7 to 11.5. The foreign-born residents represented 3.5 per cent. in 1891, 2.6 in 1901, and 1.9 in 1911.

At the date of the last census 108,631 natives of New South Wales were living in the five other States and in New Zealand, and 151,877 natives of the other States and of New Zealand were resident in New South Wales, so that the excess in New South Wales of immigrants from other parts of Australasia was 43,246 persons. The distribution in each State was as follows:—

State.	Natives of other States living in New South Wales.*	Natives of New South Wales living in other States.	Gain to New South Wales.	Loss to New South Wales.
Victoria	77,583	28,692	48,891	...
Queensland	23,302	38,921	...	15,619
South Australia	24,199	7,446	16,753	...
Northern Territory	17	185	...	168
Western Australia	2,483	17,224	...	14,741
Tasmania	10,326	2,330	7,996	...
New Zealand	13,967	13,833	134	...
Total	151,877	108,631	43,246	...

* Including the Federal Capital Territory.

The figures are necessarily exclusive of a large number of Australian natives who did not specify their birth State, and for the purposes of the table the Federal Capital Territory has been included in New South Wales. The table shows a very large gain from Victoria, the excess of Victorians in New South Wales being 48,891 persons. New South Wales gained also from South Australia, Tasmania, and New Zealand; but lost to Queensland, Western Australia, and the Northern Territory.

A comparison with the census years of 1891 and 1901 is given below, the Northern Territory being included in South Australia :—

State.	Natives of other States living in New South Wales.			Natives of New South Wales living in other States.		
	1891.	1901	1911.	1891.	1901.	1911.
Victoria ...	40,768	56,019	77,583	19,775	22,404	28,692
Queensland ...	10,173	14,968	23,302	17,023	24,868	38,921
South Australia...	17,716	22,059	24,216	2,154	4,128	7,631
Western Australia	464	887	2,483	555	14,122	17,224
Tasmania ...	5,851	7,577	10,326	1,180	2,075	2,330
New Zealand ...	9,015	10,589	13,967	2,833	6,492	13,833
Total ...	83,987	112,099	151,877	43,520	74,089	108,631

The gain from Victoria and Tasmania has steadily increased in each period; from South Australia it has fluctuated, being in 1911 slightly greater than in 1891; and the interchange with New Zealand has become more evenly balanced. The loss to Queensland has increased between each enumeration from 6,850, in 1891 to 15,619, in 1911; during the intercensal period 1891–1901, there was a large excess of emigration to Western Australia as a consequence of the development of the goldfields. The net gain to New South Wales from all the States and New Zealand was 43,246 in 1911, as compared with 38,010 in 1901, and 40,467 in 1891.

The following table shows the distribution of the Australian-born population throughout the six States of the Commonwealth at the Census of 1911. The population of the Federal Capital Territory is included in New South Wales, and that of the Northern Territory in South Australia :—

State of Nativity.	Residing in—						Total Australian-born Population.
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	
New South Wales ...	1,220,234	28,692	38,921	7,631	17,224	2,330	1,315,032
Victoria ...	77,583	1,010,219	15,943	14,650	54,613	8,779	1,181,787
Queensland ...	23,302	4,402	382,216	1,046	3,666	432	415,064
South Australia ...	24,216	23,545	3,376	319,062	24,356	923	395,478
Western Australia...	2,483	4,536	482	2,600	104,208	241	114,550
Tasmania ...	10,326	19,030	1,798	1,248	2,479	158,889	193,770
Australia, undefined	20,575	18,521	3,959	5,529	2,504	903	51,991
Total, Australian-born ...	1,378,719	1,108,945	446,695	351,766	209,050	172,497	3,667,672

Of persons resident in the State in which they were born the proportions are highest among the natives of New South Wales, 92·8 per cent.; Queenslanders, 92·1 per cent.; and Western Australians, 91 per cent. The proportions are much lower with regard to the Victorians, 85·5 per cent.; Tasmanians, 82 per cent.; and South Australians, 80·7 per cent. Of those resident outside the State in which they were born, the natives of New South Wales are most numerous in Queensland and Victoria; the Victorians, in New South

Wales and Western Australia; the Queenslanders, in New South Wales; the South Australians, in Western Australia, New South Wales, and Victoria; and the Tasmanians, in Victoria and New South Wales. Natives of Western Australia, which is the most recently settled, are not found in large numbers in any other State.

The proportions to the total population of individual States of the people born in the State in which they were resident at the time of each census since 1891, of those born in the other States, and of the total Australian-born population are shown below :—

State of Enumeration.	Natives of State of Enumeration.			Natives of other States.			Australian-born Population.*		
	1891.	1901.	1911.	1891.	1901.	1911.	1891.	1901.	1911.
New South Wales ...	64-58	72-20	74-52	6-68	7-50	8-42	71-26	79-73	84-19
Victoria ...	62-68	73-23	77-44	5-71	5-37	6-15	68-39	78-67	85-01
Queensland ...	44-99	57-00	63-39	6-87	7-87	10-04	51-86	64-87	74-09
South Australia ...	68-22	74-97	78-49	3-28	4-64	6-68	71-50	79-87	86-53
Western Australia ...	56-02	28-64	36-79	6-18	40-36	36-13	60-20	69-04	73-80
Tasmania ...	73-88	79-44	83-77	4-34	6-57	6-70	78-22	86-01	90-95

* Includes persons of Australian birth who did not specify State in which born, and have therefore been excluded from preceding columns of this table.

PERSONS OF NON-EUROPEAN RACES.

Legislative measures to restrict the influx of coloured aliens were passed in New South Wales in the early days of self-government. Public feeling was first aroused by the entry of large numbers of Chinese, and the enactments imposed limitations on the immigration of this race only. Subsequently, however, the restrictive powers were extended to regulate the influx of all coloured aliens.

At the establishment of the Commonwealth the control of the conditions relating to immigration was transferred to the Federal Parliament. The Federal legislation relating to the restriction of immigration does not aim at the exclusion of the people of any particular race or colour, but of undesirable immigrants generally. Under its provisions no person is allowed to land who fails to pass a dictation test in any European language chosen by the Customs officers. This test has not been applied to any desirable immigrant of European nationality. Paupers, criminals, lunatics, and other persons likely to be a source of danger to public health or morals, are excluded.

Provision is made also to prevent the immigration of labourers under contract to perform manual labour if their arrival has any connection with an industrial dispute, or if the contract-rate of wages is less than that current in the district where the work is to be performed.

In 1901 the Commonwealth Government passed an Act to prohibit the introduction of native labourers from the Pacific Islands. These labourers were employed in the sugar plantations—for the greater part in Queensland, but also in smaller numbers in the north coastal districts of New South Wales. Under this Act all agreements with the islanders were terminated at the end of the year 1906, and they were deported by the Government to their original homes.

At the census of 1911 the number of persons in this State of non-European race, other than aboriginal, was 13,140, which represented the very small proportion of 8 per 1,000 of the total population.

Race.	Full-blood.			Half-caste.			Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
Asiatic—							
Chinese	7,939	284	8,223	561	571	1,132	9,355
Hindus	1,119	63	1,182	72	64	136	1,318
Japanese	119	7	126	19	13	32	158
Syrians	654	540	1,194	20	25	45	1,239
Malays	28	1	29	9	2	11	40
Filipinos	7	1	8	6	3	9	17
Javanese	7	2	9	1	...	1	10
Cingalese	89	13	102	13	5	18	120
Afghans and Baluchis ...	50	2	52	1	1	2	54
Arabs	16	...	16	3	1	4	20
Jews	11	10	21	...	...	...	21
Turks	9	6	15	...	...	...	15
Other Asiatic	6	...	6	...	...	...	6
African—							
Negroes	134	23	157	95	71	166	323
Egyptians	5	4	9	...	...	...	9
Other African	3	...	3	...	...	...	3
American—							
Indians	5	...	5	5	...	5	10
Other American	5	...	5	2	...	2	7
Polynesian—							
Polynesian (so described)...	250	18	268	22	19	41	309
Papuans ... ..	...	1	1	...	1	1	2
Maoris	37	18	55	12	12	24	79
Fijians	14	5	19	1	3	4	23
Indefinite ... ..	...	2	2	...	...	...	2
Total	10,507	1,000	11,507	842	791	1,633	13,140

The most numerous of these races are the Chinese, who constitute 70 per cent. of the coloured aliens; the Hindus and the Syrians follow in numerical order.

Chinese.

The Chinese were first attracted to the State by the gold discoveries. At the census of 1861 they numbered 12,988, exclusive of half castes, who were not enumerated until 1891. From 1861 to 1871, the number declined, probably on account of the diminution in the gold-yield and the discovery of richer gold-fields in the neighbouring States; but in 1878 there was a steady increase in the arrivals from China, and this lasted until about 1888, when an effective check was given to their immigration by the Chinese Restriction and Regulation Act.

The following table shows the number of Chinese (including half-castes) in Australia at each census since 1891. For the purposes of comparison, the Federal Capital Territory has been included in New South Wales, and the Northern Territory in South Australia. At the census of 1911 there were 3 Chinese in the Federal Capital area, and 1,339 in the Northern Territory:—

State.	1891.	1901.	1911.
New South Wales (including Federal Capital Territory) ...	14,156	11,263	9,358
Victoria	9,377	6,956	5,601
Queensland	8,574	9,313	6,714
South Australia (including Northern Territory) ...	3,997	3,455	1,698
Western Australia... ..	917	1,569	1,872
Tasmania	1,056	609	529
Total, Commonwealth	38,077	33,165	25,772

ABORIGINES.

It is difficult to form a correct estimate of the number of aborigines ; but though there is reason to believe that they were formerly numerous, they have decreased rapidly before the advance of settlement and systematized occupation.

Governor Phillip estimated the aboriginal population, about the year 1790, at 1,000,000, of which number about 3,000 lived between Broken and Botany Bays. The latter estimate was very likely correct ; but the first Governor doubtless based his calculation on the assumption that the resources of the unlocked Continent were as great as those of the strip of settlement immediately under his notice.

The aborigines were never properly counted until the census of 1891, when they were classed as full-blood and half-caste. In 1901 the full-blood and nomadic half-caste only were counted. In reckoning the quota to determine the number of Members to which the State is entitled in the House of Representatives (in accordance with the provisions of the Commonwealth Constitution Act), aboriginal natives of Australia are not counted. It has been decided that only full-bloods are aborigines within the meaning of the Act, and consequently, in 1901 and 1911, half-castes were included in the general population. The number shown in the following table for the census of 1911 represents only those who were employed by whites, or who were living in the vicinity of white settlements at the date of the census. In 1861 aborigines were not enumerated ; in 1871 and 1881 the wandering tribes were passed over, and those only who were civilised, or who were in contact with Europeans, were enumerated and included in the general population. The numbers of full-blood aborigines in New South Wales at each census are shown below ; the figures for 1911 are exclusive of the Federal Capital Territory, in which were enumerated 10 aborigines—5 males and 5 females :—

Census.	Males.	Females.	Total.
1871	709	274	983
1881	938	705	1,643
1891	4,559	3,721	8,280
1901	2,451	1,836	4,287
1911	1,152	860	2,012

In 1891 the number of half-castes was 1,663 males and 1,520 females. In 1901 the number of both full-bloods and half-castes was 4,093 males and 3,341 females, and of these 509 were nomads—259 males and 250 females. In addition to the 2,012 full-bloods at the census of 1911, half-castes were enumerated numbering 4,512, of which total 2,335 were males and 2,177 were females.

The Board for the Protection of Aborigines was long ago constituted to safeguard the interests of the aboriginal population, and reserves were dedicated in different parts of the State, dwellings erected, and the means of livelihood organised. The residents on these reservations are encouraged in the tillage of the soil, and supplied with tools and seeds, and their children are educated. Under an Act passed in 1909 the control of the reserves is vested in the Board, and its powers of administration considerably amplified for the amelioration of the conditions of the aborigines. Information relating to the work of the Board will be found in a later chapter of this Year Book.

A comparison of the number of aborigines of full-blood and half-castes in each State and Territory of the Commonwealth of Australia at the census of 1911 is afforded in the following table :—

State or Territory.	Full-bloods.			Half-castes.		
	Males.	Females.	Total.	Males.	Females.	Total.
State—						
New South Wales	1,152	860	2,012	2,335	2,177	4,512
Victoria	103	93	196	237	210	447
Queensland	5,145	3,542	8,687	1,361	1,147	2,508
South Australia	802	637	1,439	316	346	692
Western Australia	3,433	2,936	6,369	760	715	1,475
Tasmania	2	1	3	123	104	227
Territory—						
Northern Territory	743	480	1,223	117	127	244
Federal Capital Territory ...	5	5	10	4	4	8
Total, Commonwealth...	11,385	8,554	19,939	5,283	4,830	10,113

The above table shows three full-blood and 227 half-caste aborigines in Tasmania at the census of 1911. These were not aborigines of the Tasmanian race, the survivals of which were segregated on Flinders Island during the mid-thirties and gradually died out. The last male, William Lannè, died in 1869, and the last female, Truganini, died on the 8th May, 1876.

NATURALISATION.

Under the Commonwealth Naturalisation Act, which came into operation on 1st January, 1904, the issue of naturalisation certificates became a function of the Commonwealth Government. Any person is deemed to be naturalised, who had obtained a certificate of naturalisation in any State of Australia prior to the passing of the Commonwealth Act.

An applicant must furnish a statutory declaration which gives his name, age, birth-place, occupation, residence, and the length of his residence in Australia; and he must state his intention of settling in the Commonwealth. A certificate signed by some responsible person that the applicant is of good repute is also necessary.

It is enacted also that any person resident in the Commonwealth (not a British subject, nor an aboriginal native of Asia, Africa, or the islands of the Pacific, New Zealand excepted), who intends to settle therein, and who has resided in Australia continuously for two years immediately preceding the application, or who has obtained a certificate of naturalisation in the United Kingdom, may apply to be naturalised.

The Governor-General in his discretion may grant or withhold a certificate of naturalisation, and the certificate will not be issued until the applicant has taken an oath of allegiance.

Any person to whom a certificate of naturalisation is granted is entitled to the same rights and privileges, and is subject to the same obligations, as a natural-born British subject, provided that where, by the provisions of any Commonwealth or State Constitution or Act, a distinction is made between the rights of natural-born British subjects and naturalised persons, the rights

conferred by the Commonwealth Act are those only to which naturalised persons are entitled. Consequent on the war many of the abovementioned privileges were suspended.

A foreign woman who marries a British subject is deemed to be naturalised thereby. Any infant, not a natural-born British subject, whose father has been naturalised, or whose mother is married to a natural-born British subject or to a naturalised person, and who has at any time resided in Australia with such father or mother, is also deemed to be naturalised.

Since 1849 certificates have been granted in New South Wales to 16,844 persons. Germans numbered 6,650; Swedes, 1,690; Russians, 1,101; Danes, 1,079; Italians, 953; and French, 766. No Chinese have been naturalised in New South Wales since 1887, but prior to that year 908 had obtained certificates.

The following table shows the birth-places of the persons resident in New South Wales to whom Commonwealth certificates of naturalisation were granted during each of the last ten years:—

Birth-place.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Austria	18	13	15	22	16	21	19	38	66	1
Denmark	31	31	24	39	50	38	39	50	71	65
France	14	27	17	37	57	35	26	24	52	19
Germany	154	163	140	217	213	190	160	177	594	24
Greece	27	19	15	34	37	24	30	23	46	26
Italy	44	51	38	66	53	40	40	32	57	34
Norway	28	20	13	34	39	23	28	45	68	40
Russia	18	10	40	62	50	42	44	77	147	56
Sweden	69	54	56	55	81	60	87	67	113	68
Switzerland... ..	6	15	8	11	14	7	14	13	23	11
Other European	18	11	22	27	28	23	20	36	61	33
United States of America...	20	16	8	24	24	26	23	17	25	31
Syria ... ..	...	3	...	...	...	...	...	1	...	...
Other Countries	28	25	...	16	3	36	35	3	4	3
Total	475	458	396	644	665	565	565	603	1,327	411

Records of the occupations of persons naturalised show that labourers, seamen, cooks, carpenters, farmers, miners, fruiterers, engineers, and firemen were the most numerous, in the order given.

The naturalised British subjects in the Commonwealth, as recorded at the census of 1911, numbered 52,951, of whom 39,683 were males and 13,268 were females:—

State.	Naturalised British Subjects.		
	Males.	Females.	Total.
New South Wales...	11,333	2,808	14,141
Victoria	8,445	2,182	10,627
Queensland	11,025	5,562	16,587
South Australia	4,141	1,763	5,904
Western Australia	3,544	646	4,190
Tasmania	734	293	1,027
Northern Territory	457	13	470
Federal Capital Territory..	4	1	5
Total	39,683	13,268	52,951

GROWTH OF SETTLEMENT IN NEW SOUTH WALES, 1891-1911.

URBAN AND RURAL POPULATION.

It is a matter of great difficulty to effect a comparison between the urban and rural constituents of the population of any one of the six States of the Australian Commonwealth. The fundamental elements of settlement in each of the States are practically identical; although in the days of its earlier history New South Wales exercised a highly paternal influence in the mode of developing the interior of the Colony, the planning and planting of townships, etc.—an influence which extended to other Colonies, notably to Van Diemen's Land, and in a more restricted sense to Port Phillip and Moreton Bay. But even in the parent Colony, the "free" township was wont to challenge and to defeat the pretensions of the Government establishment, as in the case of West against East Maitland, notwithstanding the greater danger to the former from constantly-recurring floods.

It is notable in our brief history that decay is often more emphatic evidence of the achievement of urban distinction than is prosperity. The main travelled roads of the past have become grass-grown by desuetude, and many a wayside village dates its downfall from the capture of the last bush-ranger who made it his headquarters. The railway has followed another route, and doomed to oblivion another deserted village. A deviation in a surveyed line proves often more fatal to the existence of a township than a visitation of a devastating epidemic. Railway lines create new centres not only by linking up with the coast the areas devoted to primary production, and by the necessity for establishing depôts at which primary products can be handled and entrained, but also by their own needs of continuous being and the requirements of upkeep.

Many of the towns of the Old Colonial Days still linger in a moribund state; others maintain an assured status, with little or no progress, and yet with no signs of decay. Of the former, Windsor is a type; of the latter, Parramatta. In the earliest days of settlement, and long after, Parramatta was the town of first importance in all Australia, the residence of the Governor, the official seat of administration whence "Orders in Council" were dated, and the social centre of the Colony. Its work in Governor Brisbane's astronomical observatory, at which were catalogued the stars of the Southern Hemisphere, is accepted as standard. Windsor was a great shipbuilding town, and sent off its stocks many notable vessels that long maintained the reputation of their birthplace among the craft of the day. As its name implies, Liverpool was established with great commercial anticipations of ultimate importance. The fame of the Australian Liverpool is world-wide, but rather as a training camp for Anzacs than as a busy hive sacred to the energies of commerce. Newcastle, first named the Coal River Settlement, and afterwards King's Town, was marked for prosperity from the moment Lieutenant Shortland discovered the existence of its coal. Bathurst, founded under the personal ægis of Governor Macquarie, is another of the towns of the past whose progress was long continuous. The same can be said of Grafton on the Clarence, which has aspired to become the metropolis of a new State of the Northern Rivers.

The "free" town grew up in many places around a wayside hostelry, which was itself erected at a teamsters' camping-ground. The Government township was a properly surveyed area, and was usually established as a police and administrative outpost. To this day many of these

townships have not advanced any higher in the urban scale. Generally, they comprise a short section of a main road, flanked by a few straggling houses, an hotel, a blacksmith and wheelwright's shop, a general store and post-office, and the quarters of a solitary trooper. Deserted and stagnating, their inhabitants can be termed urban only as an act of extreme courtesy; and their only local significance lies in the furnishing of a name for a postal address.

It has hitherto been the practice to assume a locality of 500 inhabitants as representative of an urban unit; but taking five persons as the average number of inhabitants to a house, this unit resolves itself into an aggregation of a hundred dwellings—a very poor showing for a so-called urban centre. Nevertheless, Australia has been denounced continually as a country in which the aggregate population is to be found in towns, an allegation which, under examination, is greatly discounted by a consideration of what a town really is. It is true that a great proportion of the population is to be found in the metropolitan area; but this marked concentration arises from causes that are obvious, with little explanation. The allegation falls to the ground when it is used with reference to Newcastle, for the great coal city justifies its magnitude and its population by its vast output of a primary product. Therefore, for the purpose of comparison of the elements of the urban and rural population of New South Wales, the metropolitan county of Cumberland, together with Newcastle and its immediate municipal suburbs, may be eliminated.

Two great factors in determining between urban and rural localities are density of population and the occupations in which the population is engaged. A mere collection of men at any given place does not bestow on that place an urban character. Persons engaged in agricultural and pastoral pursuits, dairy-farming, forestry, water-conservation, and mining, in short, in callings which constitute those who follow them primary producers, cannot be said to congregate in urban localities. Moreover, an average density of population which does not show at least one person to the acre, within measured boundaries, possesses small claims to the assumption of urban dignity. A great number of the municipalities lying outside the metropolis are much more rural than urban. Of forty such incorporated areas the density of population at the census of 1911 was less than one person per acre, Broughton Vale being represented in this respect by the average proportion of .01. Seven municipalities showed a density per acre of .02, eight of .03, three of .04, six of .05, one of .06, five of .07, six of .08, and three of .09. Nevertheless, for the purposes of establishing a basis of comparison, municipal areas, with certain qualifications herein detailed, have been taken as urban. In this connection it must be remembered that a great number of municipalities were incorporated under the provisions of the Act of 1867, which instituted boroughs and municipal districts. Under this Act a borough might include any city, town, or suburb of the metropolis, or any country district with a population exceeding 1,000 persons, and an area of not less than 9 square miles; and a municipal district might include any area not containing a borough, with a population not less than 500 and an area not more than 50 square miles, a co-ordination of qualifications which provides a ratio of 64 acres to each person.

An urban community, strictly so defined, should consist of a population representative of the callings that minister to the material, educational, religious, æsthetic, and social needs of civilized life. It should possess stores, workshops, banks, printing-offices, schools, churches, mechanics' institutes, hotels, public halls, a post office, a town-hall, a court-house, and a police-station. Without such adjuncts of civilization, no centre can be regarded as

distinctively urban. Gold-diggings, coal-fields, sugar plantations, the scenes of great Government undertakings (such as railway construction, or the building of a great dam like that of Burrinjuck), are in no sense towns, simply because they are aggregations of population within a determinate area. All localities of the simple gold-rush type may be excluded from any consideration of an urban kind; but the case becomes more complex with regard to coalfields, which are to a certain degree permanent, or at least have characteristics of permanency extending over a considerable period.

CITIES.

Australia has no city in the Old World sense, that is, a political entity constituting the seat or see of an archbishop or a bishop, who has a voice in the government of the country and a place at its council board. Indeed, in a land which recognizes no State religion, such denomination of diocesan centres could be significant only of a courteous but purely formal concession. Moreover, the towns that give their names to dioceses of the Church of England and the Roman Catholic denominations are, with the exception of Sydney and Newcastle, too far down in the population list to gain any great distinction from being called cities. In Australasia, as in other British possessions, the diocese is merely an administrative ecclesiastical area, with a nominal centre. Of such areas and nominal centres the Church of England and the Roman Catholic Church have each seven, those of the former being named Sydney, Bathurst, Goulburn, Armidale, Newcastle, Riverina, and Grafton; and of the latter, Sydney, Bathurst, Goulburn, Lismore, Maitland, Wilcannia, and Armidale.

The Local Government Extension Act of 1906 made, however, legal provision for the establishment of secular cities. Under this Act, the Governor is authorized to proclaim as a city any municipality which, during a period of five years, has maintained a population of more than 20,000 persons, and has created a revenue of £20,000, and which is an independent centre of population. During the year 1907 Broken Hill was proclaimed a city, and is the only municipality which has taken advantage of the Act in this respect, although several of the industrial suburbs of Sydney are qualified to do so.

POPULATION AND DENSITY OF MUNICIPALITIES, 1911.

Exclusive of the cities of Sydney and Broken Hill, there were only four places in New South Wales possessing more than 10,000 inhabitants at the census of 1911, namely, Newcastle, Maitland (East and West), Parramatta, and Goulburn. Outside the county of Cumberland, municipalities having populations between four and ten thousand at the census of 1911, were as follow:—

Municipality.	Population.	Persons per acre.	Municipality.	Population.	Persons per acre.
Bathurst	8,575	3.35	Illawarra North ...	5,157	0.70
Lithgow	8,196	1.95	Illawarra Central ...	5,000	0.07
Lismore	7,381	0.52	Katoomba	4,923	0.66
Tamworth	7,145	1.35	Armidale	4,738	2.28
Orange (with East Orange).	6,721	5.07	Wollongong	4,660	2.43
Wagga Wagga ...	6,419	1.11	Inverell	4,549	0.44
Albury	6,309	0.34	Dubbo	4,452	1.70
Grafton (with South Grafton).	5,888	1.45	Forbes	4,436	0.14
			Cobar	4,430	0.20
			Glen Innes	4,089	0.16

Of the foregoing eighteen municipalities, nine had a population density of less than one person per acre, Central Illawarra being at the bottom of the list with 0·07. Orange proper had a population density per acre of 6·59, which was higher than that of the metropolitan area (6·51), and was approached outside the metropolitan area only by that of Parramatta (5·73). It must, of course, be remembered that these municipalities vary considerably in area, Cudgegong, for instance, with a population of only 2,678, or a density of 0·02 persons per acre, covers no fewer than 122,880 acres, and is the largest municipality in the State.

It is unfortunate that no attempt has been made in the past to determine the actual number of people living in towns, but this is a characteristic weakness of no single State. At the census of 1911, the Commonwealth Statistician compiled a table under the heading of "Population and Occupied Dwellings in all Localities of the Commonwealth of Australia containing 50 Inhabitants and over at the Census of 3rd April, 1911 (exclusive of Full-blooded Aborigines)." The table is, however, introduced with a precautionary note: "The figures given in this section refer to the localities specified, as defined by the residents therein. It must be understood that no clearly defined boundaries exist in these cases, and the population given for any locality represents the number of persons who returned themselves and their dwellings as belonging to that locality." It is a well-known fact that dwellers in undefined, or loosely defined, places often identify their place of residence with the name of the post office to which they go for their letters, even if it be 20 miles distant.

In the Commonwealth Statistician's list of localities are a number of municipalities, and it is not infrequent for the population of the "Locality" (so called) to far outnumber, or to fall considerably short of the population of the municipality of the same name, which lies, of course, within surveyed boundaries. Unincorporated towns sometimes duplicate the name of a municipality; and occasionally a shire encloses a municipality of an identical title. The value of the table giving localities and their populations is, therefore, greatly discounted.

In former State censuses of New South Wales, collectors were instructed to differentiate between the persons living within and without municipal boundaries; and this gave a ready means of discriminating between an approximate town population and the inhabitants of the surrounding district of the same designation. For instance, in 1891 the population of the municipality of Grenfell was 745, and the number of persons outside the boundaries was 1,087; in 1901 the numbers were respectively 869 and 1,322; but in 1911 the municipal population was recorded as 1,145, and the population of the "Locality," Grenfell (not otherwise specified), as 3,007.

Nevertheless, the table is useful, inasmuch as certain areas incorporated as municipalities do not appear therein under their municipal names as "Localities," thus showing the scattered character of the settlement, and the nature of the occupations pursued by the inhabitants, namely, that of primary producers. Here is an instance which illustrates the loose connection existing between a municipal area and the population resident within its boundaries. In the above enumeration of eighteen municipalities, with populations ranging from four to ten thousand inhabitants, occur the names of North Illawarra and Central Illawarra, the first-named with a population of 5,157, and the second with a population of 5,000; yet neither place-name is mentioned in the Commonwealth Census Table of Localities. North Illawarra, with an area of 7,360 acres, had a population density of 0·70 persons per acre; but

Central Illawarra, with an area of 75,776 acres, had a population density of 0·07 per acre. The character of the settlement of these two municipalities was obviously scattered, and the municipalities themselves could not with strictness be designated as "Localities." Both, however, embraced localities (properly so-called) within their boundaries, such as Bellambi and Corrimal, and Unanderra and Dapto, postal-centres which supplied definite addresses to the inhabitants of North Illawarra and Central Illawarra, and in this way "Localities" became credited with much of the population residing beyond their boundaries.

Cudgegong is another municipality which received no recognition as such in the Table of Population according to Localities. A certain place called Cudgegong is given, and it is credited with 182 inhabitants, but it is a distinct village, some 20 odd miles distant in a south-easterly direction from the municipality of the same name.

Twenty-seven municipalities (taking the two incorporated areas of Narrabri and West Narrabri as a single municipal district) had populations at the census of 1911 ranging between two and four thousand. They are given in the following table, together with the number of persons per acre, which more clearly shows their claim to be considered urban centres:—

Municipality.	Population.	Persons per acre.	Municipality.	Population.	Persons per acre.
Wellington	3,958	0·88	Temora	2,784	0·48
Casino	3,420	0·16	Cudgegong	2,678	0·02
Narrabri (with West Narrabri)	3,320	0·83	Junee	2,531	0·46
Cowra	3,271	0·58	Deniliquin	2,494	0·08
Young	3,139	0·92	Hay	2,461	0·08
Gunnedah	3,005	1·13	Narrandera	2,374	0·51
Singleton	2,996	4·82	Coonamble	2,262	0·15
Cootamundra	2,967	0·49	Quirindi	2,240	1·50
Mudgee	2,942	3·93	Murwillumbah	2,206	3·15
Parkes	2,935	0·29	Murrumburrah	2,136	0·42
Moree	2,931	0·37	Yass	2,136	0·07
Kempsey	2,862	0·71	Cooma	2,063	0·11
Tenterfield	2,792	0·09	Corowa	2,063	0·25
			Ballina	2,061	1·36

Examples of the urban nature of some of the centres given in the foregoing table are provided in the cases of Singleton, which had a density of nearly 5 persons to the acre, Mudgee a density of nearly 4, Murwillumbah a density of 3, Quirindi a density of $1\frac{1}{2}$, and Gunnedah a density of 1 person to the acre.

The following forty-three places, incorporated as municipalities at the census of 1911, had populations ranging between one and two thousand. Taree possessed a density of 4 persons to the acre; Grenfell, of something over 3; Uralla, of 3; Narromine, Morpeth, and Muswellbrook, of nearly 2; and Tumut,

Barraba, Maclean, Manilla, Murrurundi, and Scone, densities ranging from 1.35 to 0.97.

Municipality.	Population.	Persons per acre.	Municipality.	Population.	Persons per acre.
Bega	1,969	0.86	Peak Hill	1,362	0.07
Nowra	1,884	0.12	Walcha	1,334	0.07
Muswellbrook ..	1,861	1.66	Queanbeyan	1,273	0.22
Ulmarra	1,832	0.06	Narromine	1,269	1.68
Camden	1,797	0.23	Braidwood	1,233	0.21
Bowral	1,751	0.53	Condobolin	1,230	0.04
Gulgong	1,736	0.08	Bingara	1,213	0.39
Murrurundi	1,692	1.32	Taree	1,205	4.10
Berry	1,621	0.07	Nyngan	1,200	0.40
Kiama	1,601	0.69	Gundagai	1,181	0.57
Bourke	1,593	0.05	Scone	1,156	0.97
Hillgrove	1,581	0.71	Grenfell	1,145	3.31
Wrightville	1,568	0.28	Warren	1,142	0.08
Dungog... ..	1,523	0.55	Coraki... ..	1,138	0.44
Tumut	1,517	1.35	Barraba	1,125	1.34
Shellharbour	1,512	0.04	Port Macquarie	1,119	0.32
Maclean	1,506	1.27	Jamberoo	1,100	0.03
Ulladulla	1,502	0.05	Morpeth	1,064	1.60
Moss Vale	1,474	0.08	Wyalong	1,042	0.03
Blayney	1,435	0.47	Uralla... ..	1,019	3.18
Manilla	1,390	1.34	Wallendbeen... ..	1,019	0.02
Molong	1,371	0.09			

The twenty-three places of municipal rank given below had, at the time of the taking of the census of 1911, populations of less than 1,000 inhabitants; one, indeed, Broughton Vale, having only 236, thus falling below the very moderate standard of 500 persons to an urban unit. Of those here given, Raymond Terrace, with over two persons to the acre, is most important from an urban viewpoint; Carcoar, with over one person to the acre, coming next:—

Municipality.	Population.	Persons per acre.	Municipality.	Population.	Persons per acre.
Mittagong	976	0.42	Warialda	782	0.15
Wingham	970	0.48	Aberdeen	734	0.49
Pieton	954	0.41	South Shoalhaven	721	0.03
Mullumbimby	951	0.85	Balranald	720	0.02
Moruya	945	0.03	Jerilderie	718	0.02
Raymond Terrace	911	2.37	Wilcannia	670	0.05
Burrowa	891	0.04	Hillston	644	0.02
Greta	858	0.23	Cudal	574	0.02
Moama	841	0.03	Wentworth	558	0.03
Bombala	827	0.64	Carcoar	535	1.25
Brewarrina	798	0.05	Broughton Vale	236	0.01
Gerrigong	794	0.03			

It must be remembered that the foregoing lists of municipalities are exclusive of those of the metropolitan district of Sydney and suburbs, of the whole of those in the extra-metropolitan area of the county of Cumberland, and of those comprised by Newcastle and its suburbs.

CONFUSION OF NOMENCLATURE IN SHIRE DESIGNATIONS.

The shires present certain difficulties in an attempt to arrive at a correct understanding of the constitution of the population in urban and rural groups. The fashion of duplicating names for different categories of geographical classification, a practice which cannot be reprehended too severely, is responsible for no little confusion and overlapping in the presentation of Departmental information.

The shires confuse the consideration of urban population by means of names identical with a town or a municipality, either within or adjoining their boundaries. For instance, Barraba is the name of a township, of the municipality of which it is the centre, and of the shire surrounding it; Baulkham Hills is a postal and telegraphic centre in the shire of the same name; Bellingen is a small town within a shire of like name, 1,052 square miles in extent, and having a population of 9,124—the "Locality" population is set down at 1,615; for the 1891 census it was 316, and for the 1901 census 323; Berrigan, a township within a shire of the same name, shows a similar anomaly as regards population; Boomi is the name of a shire and of a village within its boundaries; Bulli stands for town and shire, with a consequent overlapping of populations; Cessnock is another double name for a shire and its town, the latter showing an abnormal increase since the preceding census; the last remark is no less appropriate to the shire of Byron and the township of Byron Bay, to Coolah (shire and town), to Coolamon (shire and town), to Coonabarabran (shire and town), and to several other doubly-named localities; Muswellbrook and Tenterfield also are names of towns, municipalities and shires; shires and villages (or small towns) are represented by the place-names of Crookwell, Culcairn, Holbrook, Gilgandra, Gloucester, Guyra, Harwood, Kyogle, Urana, Walgett, Woodburn, Lockhart, Merriwa, Stroud, Nundle, Tumbarumba, Oberon, Rylstone, and Sutherland, with corresponding anomalies in population returns; Tweed is supplemented by Tweed Heads, Warrah by Warrah Ridge, Bogan by Bogan River, Macleay by Macleay River, Macquarie by Macquarie River, and Manning by Manning River; but a typical instance of confusion in this connection is shown by Dorrig and Dorrig Shire. Dorrig, the village, is for all practical purposes merely a postal address; but as a "Locality" it is credited in the census of 1911 with possessing a population of 1,395—in the preceding census its population was set down as 51. Dorrig Shire contains an area of 2,445 square miles, with a population of 7,984, or 3.26 persons to the square mile, and the district is always designated locally as "The" Dorrig.

It is only by the loose way of referring indefinitely to a postal address as being identical with a district address that we can account for the abnormal ascription to the village of so many inhabitants. We find this laxity in defining location in respect of municipalities, the names of which are not otherwise geographically employed, and the boundaries of which are constant; it is evident, therefore, that the populations of all "Localities" (not otherwise defined) are susceptible of a similar adjustment or rectification. To make clearer this explanation, the following figures are given. They show the populations of certain towns and villages (so defined) for the census enumerations of 1891 and 1901 respectively, together with the populations of

"Localities" (not otherwise defined), which are included in shires of the same names, for the census of 1911.

Town, Village, or Locality.	Town or Village.		Locality.
	1891.	1901.	1911.
Ashford	67	104	602
Bellingen	316	323	1,615
Berrigan	254	523	1,090
Bulli	902	962	1,397
Byron Bay	—	380	1,222
Cessnock	203	165	3,957
Coolah	263	254	765
Coolamon	319	418	1,694
Coonabarabran	580	662	1,172
Crookwell	925	1,395	1,696
Culcairn	197	253	667
Dorrigo	—	51	1,395
Gilgandra	95	683	2,207
Gloucester	76	79	1,472
Holbrook (late Germanton)	393	560	1,169
Kyogle	—	59	1,347
Lockhart	—	329	1,406
Merriwa	437	565	1,019
Stroud	259	307	1,098
Tweed Heads	—	298	712
Walgett	742	1,075	1,177

(In this and in succeeding tables, the sign (—) indicates that recorded figures are not available, and the sign (...) that the figures relating to populations or per centages appear in another column, or in another table.)

A fact which emphasizes the small urban importance of at least a number of these so-called towns is the dependence of the shires for headquarters outside their own boundaries. The *Dorrigo*, for instance, had its shire offices in *Grafton*, before removing to *Coramba*; *Ashford*, in *Inverell*; *Boomi*, in *Moree*, and so on. Since the census enumerations of 1891 and 1901 the three incorporated towns of *Gosford*, *Hill End*, and *Silverton* have lost their municipal dignity. *Gosford* has become absorbed in *Erina Shire*, *Hill End* in that of *Turon*, and *Silverton* in the *Western Division* of the State. The population of these municipalities (returned in 1911 as "Localities") for the three census periods were as follows:—

Municipality or Locality.	Municipality.		Locality.
	1891.	1901.	1911.
Gosford	685	751	1,100
Hill End	814	643	464
Silverton	1,397	286	252

TEMPORARY AGGREGATIONS OF POPULATION, 1891-1911.

A great many places appearing as centres of importance in the census enumeration of one decade, show very low numbers in the next, perhaps even vanishing altogether from the tabulation, or else they are entered under other names. A great number of places appear also for the first time. Both these statements are particularly applicable to gold-rushes, coal-finds, localised Government undertakings, and similar industrial enterprises of a private character. Strictly speaking, these temporary aggregations of human beings deserve no consideration as urban units; but it has been the custom so to regard them, although they are not eligible for purposes of

comparison in this sense. The fluctuating character of purely mining populations, from census to census, is evident from the following figures, relative to several mining centres, including the shale industry of Joadja Creek :—

Mining Centre.	Town or Village.		Locality.
	1891.	1901.	1911.
Acacia Dam	563	—	—
Alectown	633	264	317
Bora Creek... ..	—	570	—
Joadja Creek	625	—	—
Lewis Ponds	747	293	241
Little Plain	201	503	319
Lucknow	310	1,077	459
McPhail	—	616	92
Neville	—	500	376
Swamp Oak	947	113	233

MINING CENTRES, 1891-1911.

The coal-mining industry is always extending the area of its operations, and this naturally results in the formation of new aggregations of people in hitherto unknown localities, and the appearance of a number of new names in the statistical records of the State. Coal-mining, however, unlike the quest of gold, carries with it a solidity of effort, and a persistent permanence, conducive to the continuance of population. Thus it is a rare thing to find the name of any assured coalfield disappearing from statistical records, although the industry is ever searching for fresh avenues of development. The following statement shows the population of the principal mining areas of the State for the three census periods of 1891, 1901, and 1911, and include coal, gold, silver, tin, copper, oil, and opal workings :—

Mining Centre.	1891.	1901.	1911.
*Newcastle and Suburbs (m)	49,910	53,741	55,380
Broken Hill (m)	19,789	27,500	30,972
*Lithgow (m)	3,865	5,268	8,196
*Wollongong (m)	3,041	3,545	4,660
Cobar (m)	1,189	3,371	4,430
*Kurri Kurri	—	—	4,154
*Cessnock	203	165	3,957
*Bulli and Woonona	2,578	2,720	3,704
Temora (m)	915	1,603	2,784
*West Wallsend	795	1,695	2,723
Portland	212	543	2,370
Tingha	1,167	727	1,938
Adelong	1,173	1,410	1,866
Grenfell (outside Municipality)	934	1,322	1,862
*Abermain	—	—	1,849
*Helensburgh	—	1,611	1,838
*Corrimal	401	—	1,778
*Weston	—	—	1,731
*Minmi	2,357	2,595	1,708
Canbelego	—	179	1,671
Newnes	—	—	1,652
Emmaville	978	978	1,585
Hillgrove (m)	2,098	2,274	1,581
Wrightville (m)	—	1,171	1,568
Canowindra	399	416	1,535
Peak Hill (m)	1,557	1,107	1,362
Adaminaby	156	608	1,250
Condobolin (m)	742	1,078	1,230
*Aberdare	—	—	1,145

Mining Centre.	1891.	1901.	1911.
Barraba (<i>m</i>)	413	747	1,125
Wyalong (<i>m</i>)	—	1,515	1,042
*Curlewis	127	112	992
*Balgownie	—	—	957
Tumbarumba	496	860	939
*Kembla	—	—	878
Barmedman	176	293	884
*Greta (<i>m</i>)	1,751	861	858
Yerranderie	—	100	840
Howell	—	450	830
*Coledale	—	—	794
Araluen	229	685	771
*Gosforth	77	98	737
*Pelaw Main	—	—	730
Deepwater	362	423	710
*Branxton	490	506	708
*Scarborough	—	—	703
Trundle	98	78	693
*Bellambi	204	155	690
*East Greta	—	404	690
Bodangora	—	871	684
*Cardiff	114	589	667
*Dudley	—	630	659
Wallangulla (Lightning Ridge)...	—	—	623
Cobargo	346	519	610
Nundle	260	496	602
*Ashford	67	104	602
*Neath	—	—	602
White Cliffs	—	1,550	598
Oberon	245	353	586
Bungendore	620	731	584
*Clifton	452	594	571
Delegate	365	508	569
Stuart Town	563	587	547
Pambula	422	543	532
*Mt. Keira	—	—	520
*Charlestown	448	662	515
*Catherine Hill Bay	354	651	476
Burruga	528	954	472
Hill End (<i>m</i>)	814 (<i>m</i>)	643 (<i>m</i>)	469
Taralga	723	359	468
Lucknow...	320	1,077	456
Wolumla	511	441	450
Wattle Flat	539	671	415
Nymagee	1,321	881	379
Neville	—	500	376
Drake	71	814	347
Major's Creek	966	611	337
Little Plain	261	503	319
Alectown	633	264	317
Sunny Corner	1,677	515	260
Silvertown (<i>m</i>)	1,397	286	252
Lewis Ponds	747	293	243
Swamp Oak	947	113	231
Captain's Flat	488	558	206
West Wyalong	—	1,696	—
McPhail	—	616	92
Bora Creek	—	570	—
Little River	807	—	—
Joadja	625	—	—
Acacia Dam	563	—	—
*Mt. Kembla	263	—	—
Total	117,348	144,667	185,686

(In the foregoing table a proper name followed by the italic letter *m*, within parentheses, signifies that the mining centre so distinguished is a municipality).

* Denotes coalfield centres.

Of the ninety-one mining centres shown above, fifty-eight were engaged in the production of gold, silver, tin, lead, copper, gems, and oil, and thirty-three in the exclusive production of coal, at the enumeration of the census of 1911. The numbers of those dwelling in the coalfields area, and in other mineral localities, at the three census periods under review were as follow :—

	1891.	1901.	1911.
Population of Coalfields	67,497	77,156	106,172
„ other Mining Localities	49,851	67,511	79,514
Total	117,348	144,667	185,686

These centres comprised both municipalities and non-municipal townships and villages. These were respectively at the three census periods as follow, areas which became subsequently municipalised being included among the municipalities :—

	1891.	1901.	1911.
Mining Municipalities	87,481	104,710	115,886
Non-municipal Mining Townships and Villages... ..	29,867	39,957	69,800
Total	117,348	144,667	185,686

The general increases in the population of non-municipal towns in the whole State as compared with non-municipal mining areas, from census periods to census periods, 1891-1901 and 1901 and 1911, were as follow :—

	1891-1901.	1901-1911.	1891-1911.
Increase of Population in Towns of 500 Inhabitants and upwards (non-Municipal) ...	29,521	93,779	123,300
*Increase of Population in Mining Centres (non-Municipal)	10,090	29,843	39,933
General Increase, less Mining ...	19,431	63,936	83,367

*The foregoing mining-centres included a number of places of less than 500 inhabitants, which at the census enumerations of 1891, 1901, and 1911, totalled respectively 8,519, 5,582, and 6,505.

For purposes of administration by the Department of Mines, the State has been divided into twelve mining districts, and these again into a number of divisions. Some of the mining-centres in the foregoing table, though they have declined locally in population, constitute official headquarters of considerable areas. Among these may be mentioned Sunny Corner, Major's Creek, Wattle Flat, Alectown, Hill End, Stuart Town, Drake, Swamp Oak, and Captain's Flat. The coalfields are classed in Northern, Southern, and Western Districts.

The Albert Mining District takes its designation from a creek of the same name, on which is situated the village of Torowangie, whence runs a private line linking-up this mineral outpost with Broken Hill and Silverton; but the Albert Mining District embraces the whole of the Western Division of the State westward of the Darling River, and includes the Milparinka and Tibooburra Divisions in the far north-west.

Among the mining centres above-mentioned, the goldfields of Cargo, Trundle, Alectown, Condobolin, Grenfell, Temora, Barmedman, Wyalong, and West Wyalong, are divisions of the Lachlan Mining District, which includes, among others not mentioned in the list, Cudal, Parkes, Forbes, Murrumburrah, Gundagai, Cootamundra, Young, and Narrandera. These places are omitted because their production is not predominantly mineral, or is not sufficiently high to counterbalance pastoral and agricultural production.

The Tumut and Adelong Mining District includes among its divisions the following names of mineral fields above-mentioned, namely, Adelong, Tumut, and Tumbarumba; besides the districts, only partially-exploited in the quest for metals, of Germanton (since re-named Holbrook), Albury, Corowa, Cooma, Kiandra, Yass, and Wagga Wagga.

The Bathurst Mining District includes among its divisions the following names of mineral fields above-mentioned, namely, Wattle Flat, Sunny Corner, Burruga, Oberon, and Canowindra. The divisions not given in the foregoing list, and under mixed occupation, were Bathurst, Orange, Carcoar, Blayney, and Molong.

The Mudgee Mining District includes among its divisions of mineral fields above-mentioned only Peak Hill, the other divisions partially-exploited being Dubbo, Gulgong, Mudgee, and Wellington.

The Peel and Uralla Mining District includes among its divisions the following names of mineral fields above-mentioned, namely, Hillgrove, Tingha, Swamp Oak, Nundle, and Barraba; besides the partially-exploited fields of Armidale, Tamworth, Uralla, Scone, Glen Innes, Bingara, and Inverell, excluded from the foregoing list.

The Tambaroora and Turon Mining District includes among its divisions the following names of mineral fields above-mentioned, namely, Hill End and Stuart Town.

The New England Mining District includes among its divisions the following names of mineral fields above-mentioned, namely, Emmaville, Drake, and Deepwater; besides the partially-exploited mining area of Tenterfield excluded from the foregoing list.

The Clarence and Richmond Mining District includes among its divisions the partially-exploited mining fields of Grafton, Ballina, and Maclean, not mentioned in the foregoing table.

The Hunter and Macleay Mining District includes among its divisions the partially-exploited mining fields of Dungog, Bulladelah, and Port Macquarie, not mentioned in the foregoing table.

The Southern Mining District includes among its divisions the following names of mineral fields above-mentioned, namely, Yerranderie, Araluen, Major's Creek, Wolumla, Cobargo, Pambula, and Delegate; besides the partially-exploited fields of Goulburn, Nowra, Braidwood, Moruya, Milton, Bega, and Burrowa, excluded from the preceding list.

Those divisional areas of the mining districts which have been excluded from the foregoing table were old-time goldfields, which have been continuously worked from the date of discovery. But their yields have gradually decreased, and the mining industry maintains now only a subsidiary position among other branches of primary production. The output of a number of them is still, however, considerable, and from time to time they experience a stimulus by the investment of fresh capital. Nevertheless, the old fields with famous names are yearly declining, and even the comparatively new field of Wyalong has received at least a temporary check to its prosperity.

In the year of the census of 1911 the greatest yields of gold were from the fields of Cobar and Canbelego, followed at a great distance by Hillgrove, Araluen, Wellington, Adelong, Wyalong (including West Wyalong), Peak Hill, Braidwood, Murrumburrah, Gundagai, Stuart Town, and Broken Hill, in the order named. Many gold-producing places were rich also in silver, gems, and other minerals. Copper was won at Cobar, Wrightville, Nymagee, Cangai (in the Grafton Division), Kyloe (in the Adaminaby Division), and from many other workings. Broken Hill produced silver, zinc, and lead; Yerranderie and Howell, silver; Portland, lime and limestone for the manufacture of cement; Tingha, Emmaville, and Deepwater, tin; Joadja Creek and Newnes, oil-shale; and White Cliffs and Wallangulla (Lightning Ridge), precious opal. Diamonds have been found in the New England and in the Peel and Uralla Mining Districts, particularly at Copeton and Bingara, at Delegate in the Southern Mining District, and at Oberon in the Bathurst Mining District.

The State is highly metalliferous, and is also richly endowed with minerals of other kinds, from coal and building stones to diamonds and other precious gems. Many names of localities are indicative of their products, as Platina, Silvertown, Stannum, Stannifer, Leadville, Tungsten, Sapphire, Cobalt, Limestone, etc. But many places in the State produce not one, but a number of minerals in association. Broken Hill's output of silver is accompanied by a large production of lead, zinc, and even gold. Yerranderie also produces gold and lead in association with silver. Indeed, native lead is of extremely rare occurrence on account of the readiness with which the metal is oxidised.

Tin is not the exclusive mineral won at Tingha, Emmaville, Deepwater, Stannifer, and Inverell; nor is it confined to the Northern Tableland. It is found as far south as Wagga Wagga and Holbrook, and as far west as Broken Hill. Hillgrove contains tungsten, scheelite, bismuth, and other minerals, as well as gold. Lime occurs in many places, but the principal sources of supply are Goulburn, and Capertee in the county of Roxburgh. Molybdenum is found both in the north and in the south of the Tableland. Ore for the Lithgow iron and steel industry comes principally from Tallawang in the county of Bligh, and Coombing Park in the county of Bathurst. Copper occurs in twenty different districts in far-distant parts of the State.

Bulladelah possesses the only known deposit of alunite in Australia. The district around Glen Innes is the headquarters of wolfram production; oil-shale is found at Murrurundi, as well as at Newnes and Joadja; Barraba possesses chromite and mercury; Mudgee, steatite; Ashford, fire-clay besides coal; Cootamundra, Cobargo, and Mudgee, barytes; the county of Flinders, magnesite; the Central Table-land, marble; Mittagong, trachyte and granite; Boggabri, fuller's-earth; and the county of Buller, graphite.

DECLINE OF THE MINING POPULATION.

Mining is however declining, particularly as regards gold and the winning of opal. Between forty and fifty years ago, a couple of miners, at such places as Merrendee, Windeyer, Gulgong, Hargraves, Pipeclay, or Home Rule, could work profitably throughout the year, and make a systematic living. But the last mine of the old type was Wyalong, and even this field was but a modification of what was possible in the early days.

The company has displaced the individual, and company-mining demands capital for the purchase of plant and machinery. The decline of the opal-mining industry is due largely to the lack of any market for gem-stone of inferior grade, and the high cost of living which compels miners to seek other employment in places more accessible to centres whence supplies are obtainable more cheaply.

An examination of the figures relating to the occupations of the people at the three census periods of 1891, 1901, and 1911, shows a marked decrease in the number of miners employed in some of the Divisions, and an increase no less marked in others. This difference at each of the three periods under review is shown by the following figures:—

Division.	Increase or Decrease (—).		
	1891—1901.	1901—1911.	1891—1911.
Metropolitan	756	1,417	2,173
North Coast.	126	— 244	— 118
Hunter and Manning	1,329	2,737	4,066
South Coast	363	265	628
Total	1,818	2,758	4,576
Northern Tableland	— 272	— 424	— 696
Central „	1,299	— 2,084	— 785
Southern „	71	— 103	— 32
Total	1,098	— 2,611	— 1,513
North-Western Slope	— 137	— 265	— 402
Central-Western „	91	— 493	— 402
South-Western „	1,159	— 1,353	— 194
Total	1,113	— 2,111	— 998
North-Central Plain	5	— 3	2
Central Plain	31	— 396	— 365
Riverina	40	— 26	14
Total	76	— 425	— 349
Plains East of the Darling	1,213	719	1,932
Plains West of the Darling	1,428	1,384	2,812
Total	2,641	2,103	4,744
New South Wales	7,502	1,131	8,633

The miners in the State have increased by 8,633 during the twenty years under review, but the increase has been due to the extension of the coal-fields in the coastal counties of Northumberland, Cumberland, and Camden, in the east; to the development of the gold and copper mines in the counties of Robinson and Mouramba, in the plains east of the Darling River; of the opal-fields in the counties of Finch and Yungnulgra; and to the permanence of the silverfields in the county of Yancowinna, in the plains west of the Darling—all of which are in the Western Division. But the increase for the whole State was mainly in the first decade, when a marked stimulus was shown in the goldfields in the Central Tableland and the South-Western Slope, together with a corresponding increase in the population.

Referring to the table on pages 467 and 468 showing the population of mining-centres, it will be seen that the population of Newcastle and its suburbs, taken together, did not increase greatly from the census year of 1901 to that of 1911. The increase of population in the case of Broken Hill was more marked in the first decade under review. Of the goldfields, Hillgrove had declined considerably in population in the second decade; Grenfell (outside municipal boundaries) had continuously

shown a gradual increase for the two periods; Peak Hill fluctuated very much, and had not then retrieved the position it held in 1891; Wyalong had suffered severe reverses after rapid successes, though Barmadman and Temora, its neighbours, were growing in population; and Bodangora was suffering a withdrawal of inhabitants. White Cliffs lost about two-thirds of its population in the period intervening between 1901 and 1911. The silverfield of Yerranderie had attracted many persons within the same decade; and while the municipality of Wrightville (late Gladstone) had only steadily grown in population, its neighbour, Cobar, had made a distinctly good advance.

The shale-mine at Newnes was but recently listed at the census of 1911, but its decline has since begun. The tin-producing localities of Emmaville and Tingha were increasing in population. The coalfields were not all progressive. Greta, Dudley, Clifton, and Charlestown, for instance, were stationary, or practically so; and Helensburgh and East Greta showed only a moderate growth, which might be said also of Cardiff. Minmi was actually declining, and lost 887 from a population of 2,595 within the ten years that elapsed from 1901 to 1911. Wollongong, Bulli and Woonona, West Wallsend, Gosforth, and Bellambi all showed vigorous growth. The big coalfields of Kurri Kurri and Cessnock, and those of less importance like Abermain, Aberdare, Pelaw Main, Scarborough, and Neath, were all new and all flourishing.

The figures in that table also illustrate the fact brought forward in a preceding paragraph relative to the stability and permanence of the coalfields as contrasted with gold-bearing areas. New names appear in the list of coalfields, it is true, but the names recorded at the census of 1891 still retain their position, albeit the population of certain places may have advanced but little, or even remained stationary. The gold-bearing areas, on the other hand, were soon worked out, and the diggers who made up their population departed at once in other directions, sometimes at great distances from the scene of their former labours. This fact shows the need for care in classing as urban any temporary aggregation of people at any particular locality.

LOSS OF URBAN STATUS, 1891-1911.

Several towns, or, more correctly speaking, places classed as urban, possessing the standard of 500 inhabitants to justify their classification in 1891, have since declined, as shown in the following table:—

Town, Village, or Locality.	Town or Village.		Locality.
	1891.	1901.	1911.
Emu Plains... ..	642	610	622
Glen Mitchell	558	—	—
Castle Hill	537	415	568
Burraborang	531	492	411
Kangaloon	530	502	357
Rooty Hill	527	284	—
Blacktown	506	522	449

The foregoing statement does not include the mining areas already given. Several places of the 500-inhabitants standard, as shown by the census of 1901, have declined also, according to the populations recorded for

"Localities" in the Commonwealth census of 1911. They are (exclusive of mining areas already given) as follow :—

Town, Village, or Locality.	Town or Village.		Locality.
	1891.	1901.	1911.
Dural	295	672	443
Pokolbin	329	655	354
Seven Hills	454	527	459

THE RURAL NATURE OF INLAND SETTLEMENT.

It was assumed at one time that any incorporated area was urban ; although it was recognised that the term was applied very loosely. The Shires Act of 1905, and the Local Government Act of 1906, however, have incorporated the entire State with the exception of the Western Division, which, roughly speaking, is all the territory westward of the Barwon, the Bogan and its tributaries, and the Lachlan Rivers. The Western Division contains the nine municipalities of Broken Hill, Cobarr, Bourke, Wrightville, Nyngan, Brewarrina, Balranald, Wilcannia, and Wentworth. Nevertheless, more than half the State—practically all its settled area—is incorporated in municipalities or in shires ; and shires are merely larger municipalities, with population densities calculated in terms of square miles instead of acres. This widely-spread system of municipalisation necessitates the definition of the urban unit.

If the population of New South Wales were to be regarded on the basis of places classified as "Localities" at the census of 1911, it would be found practically to be almost wholly urban ; which, of course, is not the case. Of the 576,001 male workers enumerated at the census of 1911, the professional class contributed 6·39 per cent. ; the domestic, 3·28 per cent. ; the commercial, 15·32 per cent. ; the transport and communication, 10·49 per cent. ; the industrial, 29·88 per cent. ; and the primary producers, 34·64 per cent. Of all forms of labour applied for purposes of production to soil and material, that of primary production demands the use, to an almost exclusive extent, of the State's terrain ; as may be seen from a consideration of the utilisation of the public lands since the beginning of settlement.

The area of New South Wales, exclusive of the Federal Capital Territory, and inclusive of water, is 198,058,880 acres. According to statistics for the year 1914-15, the total area occupied for purposes of primary production was 174,672,313 acres. The municipal area of the State at the date of the census of 1911 was 1,951,231 acres, and the population density of the total municipalities was 0·53 ; but a very considerable area of this incorporated land-surface was used also for purposes of primary production. Hence, the generally accepted notion that this State is urban rather than rural in the nature of its occupation has no foundation whatever in fact. It is, indeed, the survival of an idea which had its origin in the early days, when the country was unknown and uncharted, and a wayside hostelry, or an isolated shepherd's hut, was endowed with all the attributes of a centre of population, and invested with all the dignity of an outpost of progress and civilization.

The same thing was characteristic of the colonization of the United States of America, and is characteristic at the present day of the colonization of South African territories like Rhodesia and Bechuanaland. The pioneer "cities" of America, prior to the great Civil War of 1860-65, were a source

of amusement, no less than of amazement, to tourists and travellers from Europe, where a city was something of slow growth and immemorial antiquity. Nevertheless, in the earliest days of a young colony's history the small centre is actually of very great importance; and it is natural for memory to perpetuate a past status which is no longer sustained in the present by any actual fact of achievement, or by any continuity of effort.

The reputation once accorded to these old-time centres has not been revoked with the passing of the years; and the hall-mark "urban" clings to places which were never of higher rank than that of a country village, if considered apart from epoch and environment. This accounts to some extent for the apparent preponderance of an excessive urban population in New South Wales, no less than in other States of the Commonwealth; but, another reason is to be found in the inflation of population with regard to centrally-situated localities, so that a post office becomes credited with an importance altogether illusory and presumptive.

OVER-STATEMENT OF LOCAL POPULATION.

This tendency of persons to denominate as their place of residence the more important, or the more intimately known, centre of their district, is shown in a striking manner by the classification of "Localities" in the census enumeration of 1911. The number of persons who described themselves on their census forms as being residents of certain "Localities" exceeded the population of the definite municipal areas of the same name by nearly 40,000, or over 12 per cent. of the total number of the inhabitants of the municipalities. It has been pointed out already that population centres within the boundaries of shires of similar designation are extremely likely to receive credit for a number of residents altogether beyond their probable residential capacity, though to what extent, it is impossible to determine.

For the purpose of comparing the urban and rural constituents in the population of the State in 1911, on the basis adopted for the compilation of the census returns for the years 1891 and 1901, a deduction of 12 per cent. (suggested by the example supplied by the municipalities) from the populations recorded for "Localities," might be fairly expedient. But, even making such an allowance for over-statement and over-lapping, the number of persons set down as inhabiting urban centres must be considerably in excess of what actually obtains; especially with regard to such debatable centres of population as Dorriggo and Kyogle, which, it may be presumed, do not stand alone in this respect.

THE UNINCORPORATED URBAN POPULATION, 1891-1911.

The following statement shows six "Localities" credited with a population of 2,000 inhabitants and upwards at the census enumeration of 1911, in comparison with the figures obtained at the census periods, 1891 and 1901:

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Kurri Kurri	—	—	—	—	4,154
Cessnock	203	165	...	...	3,957
Wallsend, West ... ..	...	...	795	1,695	2,723
Portland... ..	212	...	...	543	2,370
Woonona ... ..	...	...	1,676	1,758	2,307
Gilgandra	95	...	...	683	2,207
Total, over 500 Inhabitants ...			2,471	4,679	17,718

Sixteen localities represented population centres containing from 1,500 to 2,000 inhabitants, as under :—

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Boggabri ... ..	...	...	506	560	1,953
Tingha ... ..	...	...	1,167	727	1,938
Adelong ... ..	...	...	1,173	1,410	1,866
Grenfell (outside Municipality)	...	...	1,087	1,322	1,862
Abermain	—	—	—	—	1,849
Corrimal	401	—	...	—	1,778
Weston	—	—	—	—	1,731
Minmi ... ..	...	...	2,357	2,595	1,708
Crookwell ... ..	...	...	925	1,395	1,696
Coolamon	319	418	...	...	1,694
Canbelego	—	179	—	...	1,671
Newnes	—	—	—	—	1,652
Bellingen	316	323	...	...	1,615
Ennerville ... ..	...	...	978	978	1,585
Canowindra	399	416	...	...	1,535
Wee Waa	262	...	...	775	1,512
...	...	...	8,193	9,762	27,645
Less Corrimal, included in North Illawarra ...	...	...	...	...	1,778
Total, over 500 Inhabitants ...	...	...	8,193	9,762	25,867

Twenty-eight localities represented population centres containing from 1,000 to 1,500 inhabitants, as under :—

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Gloucester	76	79	...	...	1,472
Lockhart	—	329	—	...	1,406
Kenmore	—	...	—	884	1,399
Bulli ... ..	...	...	902	962	1,397
Dorrigo	—	51	—	...	1,395
Milthorpe	498	...	...	994	1,390
Leura	—	—	—	—	1,363
Kyogle	—	59	—	...	1,347
Blackheath ... ..	...	...	771	734	1,318
Guyra	—	...	—	547	1,309
Adaminaby	156	...	...	608	1,250
Byron Bay	—	380	—	...	1,222
Wyong	194	...	...	808	1,193
Walgett ... ..	...	...	742	1,075	1,177
Coonabarabran ... ..	...	...	580	662	1,172
Holbrook	393	...	...	560	1,169
Trangie	241	...	...	1,003	1,164
Aberdare	—	—	—	—	1,145
Coff's Harbour	177	123	...	...	1,114
*Gosford ... ..	...	...	...	...	1,100
Stroud	259	307	...	...	1,098
Berrigan	254	...	...	523	1,090
Milton	—	—	—	—	1,084
Werris Creek	329	...	...	503	1,083
Bangalow	—	186	—	...	1,057
Ganmain	—	...	—	533	1,033
Merriwa	437	...	...	565	1,019
Alstonville	485	...	...	651	1,001
...	...	...	2,995	11,612	33,967
Less Milton, included in Ulladulla ...	...	...	...	...	1,084
Total, over 500 Inhabitants ...	...	...	2,995	11,612	32,883

* For population of Gosford in 1891 and 1901, see Table of Municipalities, page 496.

Nine localities represented population centres ranging from 900 to 1,000 inhabitants, as under :—

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Curlewis	127	112	...	...	992
Henty	123	...	...	521	968
Ourimbah	285	354	...	...	964
Walla Walla	183	346	...	...	958
Balgownie	—	—	—	—	957
Tumbarumba	496	...	...	860	939
Dapto	—	—	—	—	938
Eugowra	137	...	...	668	911
Woodstock	133	490	...	...	908
	...	...	...	2,049	8,533
Less Dapto, included in Central Illawarra ...				...	938
Total, over 500 Inhabitants ...				2,049	7,597

Twelve localities represented population centres ranging from 800 to 900 inhabitants, as under :—

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Nimitybelle	254	422	...	...	892
Barmedman	176	293	...	...	884
Lorne	—	289	—	...	879
Kembla	—	—	—	—	878
Woodburn ... ..	...	...	842	585	853
Woodford, with Brushgrove ...	...	...	996	670	847
Port Kembla	—	—	—	—	844
Yarranderie	—	100	—	...	840
Howell	—	452	—	...	830
Delungra	—	—	—	—	819
Gunning	468	...	...	602	816
Bundarra	330	453	...	...	814
Total, over 500 Inhabitants ...			1,838	1,857	10,196

Sixteen localities represented population centres ranging from 700 to 800 inhabitants, as under :—

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Tocumwal	325	417	...	...	788
Araluen	229	...	...	685	771
Dunoon	—	168	—	...	771
Burrinjuck	—	—	—	—	768
Rylstone ... ..	...	449	592	...	765
Coolah	263	254	...	...	765
Wentworth Falls	176	344	...	...	753
Gosforth	77	98	...	...	737
Clarence Town	491	371	...	...	730
Pelaw Main	—	—	—	—	730
Springwood	69	...	...	618	724
Boolaroo	—	405	—	...	720
Branxton	490	...	...	586	713
Tweed Heads	—	298	—	...	712
Deepwater	362	423	...	...	710
Paterson	327	...	...	506	708
Total, over 500 Inhabitants ...			592	2,395	11,865

Forty localities represented population centres ranging from 600 to 700 inhabitants, as under:—

Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Wallerawang ... ..	...	...	507	538	690
Ufana	397	301	...	...	694
Trundle	98	78	...	...	693
Bellambi	204	155	...	...	690
East Greta	—	404	—	..	690
Bodangora	—	...	—	871	684
Finley	—	294	—	...	678
Lawson	212	...	...	502	678
Teralba	240	...	...	1,051	676
The Rock (Kingston)	217	366	...	...	672
Holmesville	—	416	—	...	672
Bogan Gate	—	256	—	...	668
Culcairn	197	253	...	...	667
Cardiff	114	...	...	598	667
Nimbin	—	64	—	...	666
Woy Woy	—	126	—	...	660
Dudley	—	...	—	630	659
Southgate	178	...	...	620	656
Manildra	—	379	—	...	653
Candelo	473	...	...	542	643
Morisset	—	221	—	...	640
Mulwala	206	417	...	...	636
Bulladelah	299	...	...	559	631
Cumnook	134	305	...	...	629
Toronto	137	389	...	...	629
Eden	359	347	...	...	626
Wallangulla	—	—	—	—	623
Emu Plains ... ..	...	...	642	610	622
Barham	—	140	—	...	618
Miller's Forest	—	394	—	...	616
Lansdowne	257	121	...	...	613
Cobargo	—	...	—	519	610
Cargo ... ..	...	462	610	...	608
Mort's Estate	—	—	—	—	608
Attunga	165	347	...	...	606
Murringo (Marengo)	139	—	...	—	603
Ashford	67	104	...	...	602
Neath	—	—	—	—	602
Nundle	260	496	...	...	602
Mungindi	61	330	...	...	601
...	...	...	1,759	7,040	25,787
Less Bellambi included in North Illawarra ...	...	...	...	...	690
Total, over 500 Inhabitants ...	...	...	1,759	7,040	25,097

Fifty-one localities represented population centres ranging from 500 to 600 inhabitants, as under :—

Town, Village or Locality,	Population under 500.		Population over 500.		
	Census 1891.	Census 1901.	Census 1891.	Census 1901.	Census 1911.
White Cliffs	—	—	—	1,550	598
Bemboka	—	323	—	—	593
Ariah	—	—	—	—	589
Wallabadah	158	425	—	—	589
Taylor's Arm	—	—	—	—	588
Laurieton	99	492	—	—	587
Yerong Creek	206	297	—	—	587
Oberon	245	353	—	—	586
Lavington	—	—	—	—	586
Bungendore	—	—	629	731	584
Lawrence	354	—	—	558	581
Bowra	119	277	—	—	576
Delegate	365	—	—	508	569
Grong Grong	53	248	—	—	567
Harwood	—	—	519	523	563
Boomi	—	—	—	—	562
Kangaroo Valley	—	483	552	—	561
Oaklands	—	—	—	—	560
Unanderra	—	—	—	—	558
Currabubula	311	360	—	—	557
Nambucca	—	453	—	—	555
Kelso	—	—	689	591	553
Hartley	—	—	797	604	552
Collarendabri	127	257	—	—	551
Broadwater	492	—	—	695	550
Kurrajong	361	450	—	—	550
Stuart Town	—	—	563	587	547
Wardell	426	390	—	—	547
Howlong	425	479	—	—	545
Raleigh	241	139	—	—	541
Fredericktown	343	443	—	—	539
Goolagong	146	153	—	—	534
Pambula	422	—	—	543	532
Condong	—	98	—	—	531
Denman	268	260	—	—	527
Tuggerah	—	103	—	—	527
Dungowan	—	251	—	—	525
Binalong	344	369	—	—	524
Forster	328	298	—	—	523
South Arm	—	—	—	—	523
Wilberforce	482	—	—	810	523
Mt. Keira	—	—	—	—	520
Tarcutta	196	302	—	—	520
Wombat	329	392	—	—	516
Charlestown	443	—	—	662	515
Meerschaum	—	188	—	—	513
Gresford	—	267	537	—	512
Robertson	460	—	—	574	510
Macksville	118	165	—	—	509
Stockinbingal	—	144	—	—	508
Moonbi	261	163	—	—	503
...	...	...	4,286	8,936	27,968
Less Unanderra, included in Central Illawarra ...	...	...	...	...	558
Total, over 500 Inhabitants ...	...	...	4,286	8,936	27,409

GROWTH OF MUNICIPALITIES IN THE METROPOLITAN DIVISION, 1891-1911.

The metropolitan county of Cumberland was represented at the census of 1911 by 62 municipalities; in 1901, by 61; and in 1891, by 47. Some of these were amalgamated under a new name, and some were created by the subdivision of existing municipal areas. In 1891 a portion of the electorate of Central Cumberland, north of the Parramatta River, and south of the newly constituted municipality of Dundas, was incorporated under the name of Ermington and Rydalmere. In 1892 a part of the electorate of Canterbury, adjoining the municipality of Granville, was incorporated under the name of Auburn; and a part of the electorate of Central Cumberland, under that of Cabramatta and Canley Vale. In 1893 a section of the municipality of Penrith was incorporated under the name of Mulgoa; and a section of the municipality of North Sydney, under the name of Mosman.

In 1894 Annandale and Marsfield were created, respectively, from subdivisions of the existing municipalities of Leichhardt and Ryde. In 1895 the new municipalities of Vacluse, Lane Cove, Bankstown, and Castlereagh were formed—the first from a portion of Woollahra, and the second from a portion of North Willoughby. Bankstown and Castlereagh were formed from hitherto unincorporated parts of the county. In 1896 Ingleburn was formed from a portion of Campbelltown; and, in 1900, Bexley from a portion of Hurstville. In 1902 Five Dock and Drummoyne were amalgamated under the name of the latter; and the name of Erskineville replaced that of Macdonaldtown. North Willoughby dropped the prefix in the census enumerations subsequent to that of 1891, and appeared simply as Willoughby. In 1907 the name of Marsfield (late Field of Mars), was changed to Eastwood, an appellation it still retains; and since the census of 1911 Rookwood has adopted the name of Lidcombe.

THE CITY OF SYDNEY AND THE SUBURBAN MUNICIPALITIES, 1891-1911.

The population of Sydney and suburbs, and the density of human occupation per acre, for the three census periods, 1891, 1901, and 1911, are given in the following table, in the order of the numerical progression of the municipalities constituting the metropolitan area at the last census:—

Municipality.	Area in Acres.	Population.			Persons per Acre.			Incorporated.
		1891.	1901.	1911.	1891.	1901.	1911.	
City of Sydney ...	2,892	107,652	112,137	112,921	37·22	38·45	33·94	20 July, 1842
North Sydney ...	2,067	15,649	22,040	34,646	7·57	10·66	16·76	29 July, 1890
Balmain ...	938	23,475	30,076	32,038	25·03	32·06	34·16	21 Feb., 1860
Marrickville ...	2,016	13,507	18,775	30,653	6·70	9·31	15·20	1 Nov., 1861
Newtown ...	442	17,870	22,598	26,498	40·43	51·13	59·95	12 Dec., 1862
Redfern ...	435	21,322	24,219	24,427	49·02	55·68	56·15	11 Aug., 1859
Paddington ...	403	18,392	21,984	24,317	45·64	54·55	58·34	17 Apr., 1860
Leichhardt ...	1,164	12,692	17,454	24,254	10·39	14·99	20·84	14 Dec., 1861
The Glebe ...	521	17,075	19,220	21,943	32·77	36·87	42·16	1 Aug., 1859
Petersham ...	1,254	10,369	15,307	21,712	8·27	12·22	17·31	14 Dec., 1871
Ashfield ...	2,081	11,697	14,329	20,431	5·26	6·88	9·82	28 Dec., 1871
Waverley ...	1,965	8,842	12,342	19,831	4·50	6·28	10·09	13 June, 1859
Randwick ...	8,064	6,236	9,753	19,463	0·77	1·21	2·41	22 Feb., 1859
Woollahra ...	1,926	9,016	12,351	16,989	4·68	6·41	8·82	17 Apr., 1860
Rockdale ...	5,022	4,908	7,857	14,095	0·98	1·56	2·81	13 Jan., 1871
Mosman (portion of N. Sydney in 1891) ...	2,067	1,457	5,691	13,243	0·70	2·75	6·41	11 Apr., 1893
Willoughby ...	5,530	2,296	6,004	13,036	0·42	1·09	2·36	23 Oct., 1865

Municipality.	Area in Acres.	Population.			Persons per acre.			Incorporated.
		1891.	1901.	1911.	1891.	1901.	1911.	
Canterbury ...	8,384	2,426	4,226	11,335	0·29	0·50	1·35	19 Mar., 1879
Annandale (por- of Leichhardt in 1891) ...	360	4,975	8,349	11,240	13·82	23·19	31·22	29 Dec., 1893
Manly ...	2,426	3,236	5,035	10,465	1·33	2·08	4·31	6 Jan., 1877
Alexandria ...	1,024	7,505	9,341	10,123	7·33	9·12	9·88	27 Aug., 1868
Waterloo ...	806	8,701	9,609	10,072	10·79	11·92	12·50	16 May, 1860
Burwood... ..	1,050	6,227	7,521	9,380	5·93	7·16	8·93	27 Mar., 1874
Drummoyne (am- algamated with Five Dock in 1902) ...	1,920	2,701	4,244	8,678	1·41	2·21	4·52	12 Mar., 1902
St. Peter's ...	896	4,860	5,906	8,410	5·42	6·59	9·39	13 Jan., 1871
Erskineville (named Mac- donaldtown in 1891) ...	166	5,275	6,059	7,299	31·78	36·50	43·97	23 May, 1872
Kogarah ...	4,448	2,328	3,892	6,953	0·52	0·87	1·56	22 Dec., 1885
Hurstville ...	6,750	1,125	4,019	6,533	0·17	0·60	0·97	25 Mar., 1887
Bexley (portion of Hurstville in 1891) ...	1,920	2,050	3,079	6,517	1·07	1·60	3·39	28 June, 1900
Mascot (late Bot- any North) ...	2,256	2,407	3,772	5,836	1·07	1·67	2·59	29 Mar., 1888
Ryde ...	7,110	2,713	3,222	5,281	0·38	0·45	0·74	11 Nov., 1870
Hunter's Hill ...	1,325	3,633	4,232	5,013	2·74	3·19	3·78	5 Jan., 1861
Botany ...	2,163	2,060	3,353	4,409	0·95	1·56	2·04	29 Mar., 1888
Concord ...	2,666	2,107	2,818	4,076	0·79	1·06	1·53	11 Aug., 1883
Strathfield ...	1,792	2,292	2,991	4,046	1·28	1·67	2·26	2 June, 1885
Darlington ...	44	3,465	3,784	3,816	78·75	86·00	86·73	11 Aug., 1864
Enfield ...	1,696	2,050	2,497	3,444	1·21	1·47	2·03	17 Jan., 1889
Lane Cove (por- tion of North Willoughby in 1891) ...	2,496	1,115	1,918	3,306	0·44	0·77	1·32	9 Feb., 1895
Vauluse (former- ly portion of Woolahra) ...	768	1,007	1,152	1,672	1·31	1·50	2·18	29 Mar., 1895
Eastwood (late Marsfield, por- tion of Ryde in 1891) ...	2,931	512	713	968	0·17	0·24	0·33	2 June, 1894
Homebush ...	640	...	...	676	...	...	1·06	6 June, 1906
Camperdown ...	435	6,658	7,931	...	15·31	18·23	...	13 Nov., 1862
	95,259	383,283	481,830	620,045	4·02	5·06	6·51	
Ku-ring-gai Shire	23,040	...	...	9,458	...	...	...
Total, Metropolis	118,299	383,283	481,830	629,503	4·02	5·06	5·32	

Homebush was incorporated on the 6th June, 1906; and on the 1st January, 1909, the municipality of Camperdown became part of the City of Sydney as a ward of the metropolis. Ku-ring-gai Shire was included as part of the metropolitan area as from 1st January, 1911. Before incorporation, the population of Homebush in 1891 was 472, and in 1901 it was 498. Similarly, Ku-ring-gai Shire had a population of 1,429 in 1891, and 4,644 in 1901. The population of Camperdown Ward at the census of 1911 was 9,398. The Shire of Ku-ring-gai contained, at the census of 1901, before the area was incorporated, four residential villages of 500 inhabitants and upwards, and three under that standard. This was a result of the railway extension that linked-up the suburbs of North Sydney with the metropolis, and caused new suburbs to spring up to accommodate the ever-increasing city population. These seven places, classed as towns and villages in the census enumeration of 1901, and as "Localities" in that of 1911, were as follows:—

					Population.	
					1901.	1911.
Pymble	...	...	...	...	941	1,353
Wahroonga	...	...	...	...	784	1,348
Turramurra	...	...	...	...	788	1,306
Gordon	...	...	...	...	653	1,298
Lindfield	...	...	...	...	498	1,285
Roseville	...	...	...	...	356	1,057
St. Ives	...	...	...	...	480	519

A comparison of the figures giving the population of the City of Sydney, at the three census periods under review, shows an increase of 4,485 for the decade 1891-1901, and of only 784 for the decade 1901-11, notwithstanding the inclusion of Camperdown in 1909. This is a result of the continuous expansion of the suburban area, and of the increasing reticulation of the country in the neighbourhood of the metropolis by the electric tram-system. The suburbs nearest the city are the most densely populated, Darlington, for instance, the smallest metropolitan municipality in area, having a density of 86·73 persons per acre. Twenty years before, it was much more densely populated than Newtown at the last census, and Newtown is second in this respect on the list, with Paddington and Redfern following closely, in the order named. Erskineville and the Glebe have a density of over 40 persons to the acre; Balmain, Sydney (the City), and Annandale, of over 30; Leichhardt, of nearly 21; Petersham, North Sydney, and Marrickville, a density ranging from 17·31 to 15·20; Waterloo, one of 12·50; Waverley, one of slightly over 10; Alexandria, Ashfield, St. Peter's, Burwood, and Woollahra, decline gradually in density per acre from 9·88 to 8·82; Mosman has 6·41, almost the general average of the whole metropolitan area; Drummoyne, Manly, Hunter's Hill, and Bexley form a group, the limits of which are respectively 4·52 and 3·39; Ryde, Mascot, Randwick, Willoughby, Strathfield, Vaucluse, Botany, and Enfield range downwards from 2·81 to 2·03; Kogarah, Concord, Canterbury, Lane Cove, and Homebush have all more than one, and less than two, persons to the acre; Hurstville, Ryde, and Eastwood are increasingly rural in character, with a density ranging from 0·97 to 0·33 persons to the acre. The population of some municipalities remained practically stationary, or increased only very gradually; while others doubled their population within the two decades—that of Mosman increased from 1,457 in 1891 to 5,691 in 1901, and to 13,243 in 1911. The newest suburbs grew the fastest, as a reference to the dates of incorporation will show.

EXTRA-METROPOLITAN MUNICIPALITIES, 1891-1911.

The nineteen remaining municipalities of the county of Cumberland outside the metropolitan area, show the following comparative results for the three census periods under review :—

Municipality.	Area in Acres.	Population.			Persons per Acre.			Incorporated.
		1891.	1901.	1911.	1891.	1901.	1911.	
Parramatta ...	2,176	11,677	12,560	12,465	5·37	5·77	5·73	27 Nov., 1861
Granville ...	4,109	4,248	5,094	7,231	1·03	1·24	1·76	20 Jan., 1885
Auburn ...	2,688	...	2,948	5,559	0·75	1·08	2·07	19 Feb., 1892
Rookwood (now Lidcombe) ...	5,376	2,084	4,496	5,418	0·39	0·84	1·01	8 Dec., 1891
Liverpool... and	43,008	4,463	3,901	3,938	0·10	0·09	0·09	27 June, 1872
Prospect and	...	...	...	...	...	...	...	...
Sherwood ...	7,680	2,075	3,259	3,932	0·27	0·42	0·51	5 July, 1872
Penrith ...	8,678	3,797	3,539	3,682	0·44	0·41	0·42	12 May, 1871
Windsor ..	24,896	2,033	2,039	3,466	0·08	0·08	0·14	4 March, 1871
Smithfield and	...	...	...	...	...	...	...	...
Fairfield ...	15,360	1,392	1,643	2,226	0·09	0·11	0·14	8 Dec., 1888
Bankstown ...	19,393	...	1,246	2,039	...	0·06	0·11	7 Sept., 1895
Richmond ...	13,197	1,242	1,202	1,857	0·09	0·09	0·14	18 June, 1872
Campbelltown ...	64,640	2,381	2,152	1,825	0·04	0·03	0·03	21 Jan., 1882
St. Mary's ...	37,760	1,823	1,840	1,794	0·05	0·05	0·05	3 March, 1890
Ermington and	...	...	...	...	...	...	...	...
Rydalmere ...	2,048	...	1,231	1,716	..	0·60	0·84	18 June, 1891
Cabramatta and	...	...	...	...	...	...	...	...
Canley Vale ...	7,272	...	980	1,181	...	0·14	0·16	8 Oct., 1892
Dundas ...	2,688	1,566	1,087	1,136	0·58	0·49	0·42	23 March, 1889
Castlereagh ...	30,426	...	609	520	...	0·02	0·02	7 Sept., 1895
Mulgoa ...	18,880	...	476	451	...	0·03	0·03	25 July, 1893
Ingleburn ...	6,592	...	362	379	...	0·05	0·05	25 April, 1896
Total ...	316,867	38,781	50,664	60,815	0·12	·16	0·19	

Parramatta, with a density of 5·73 persons to the acre, is second only to Orange (outside the metropolitan boundary and the Newcastle group of municipalities) in that compactness of habitation which constitutes the chief claim to the title of urban. But even Parramatta is declining in population, although the loss from the census enumeration of 1901 to that of 1911 amounted only to 95 persons. Auburn nearly doubled its population between the years 1901 and 1911; and Granville, Rookwood (now Lidcombe), Bankstown, Ermington and Rydalmere, and Cabramatta and Canley Vale, have grown according to the character of their settlement and the occupations followed by their inhabitants. Windsor and Richmond, both old-time towns, with a prosperous past, after remaining absolutely unprogressive from 1891 to 1901, showed signs of a recrudescence at the census enumeration of 1911. On the other hand, the old-time towns of Liverpool and Campbelltown, and the municipalities of St. Mary's, Castlereagh, and Mulgoa, were, at the census of 1911, declining in population; Prospect and Sherwood, Smithfield and Fairfield, and Dundas, were feebly maintaining only a slight advance; and Penrith, Camden, and the small municipality of Ingleburn were practically stationary. Outside Parramatta, Granville, Auburn, and Rookwood (now Lidcombe), the density of the fifteen remaining extra-metropolitan municipalities of the county of Cumberland was less than one person per acre, and ranged from 0·84 in Ermington and Rydalmere to 0·02 in Castlereagh. These low figures arise from the callings of a majority of the inhabitants, which consist mainly of small culture—bee-keeping, poultry-farming, the

cultivation of orchards and market-gardens, grape and orange-growing, etc.; but some places are the centres of stone-quarries, brick-works, potteries, fellmongeries, and similar enterprises; and Granville and Auburn have extensive establishments for the construction of railway-carriages and rolling-stock, and for general engineering and the manufacture and repair of machinery.

NEWCASTLE AND ITS SUBURBAN MUNICIPALITIES, 1891-1911.

The city of Newcastle and its suburbs comprise twelve municipalities which show the following comparative results for the three census periods under review:—

Municipality.	Area in acres.	Population.			Persons per acre.			Incorporated.
		1891.	1901.	1911.	1891.	1901.	1911.	
City of Newcastle	1,130	12,914	12,988	12,387	11·43	11·49	10·96	7 June, 1859
Wickham	966	6,582	7,752	8,434	6·81	8·02	8·73	25 Feb., 1871
Hamilton	1,594	4,844	6,124	7,908	3·04	3·84	4·96	11 Dec., 1871
Waratah	2,860	2,718	3,080	4,419	0·95	1·08	1·54	23 Feb., 1871
Merewether	1,114	4,339	4,547	4,151	3·89	4·08	3·72	20 Aug., 1885
Wallsend	3,206	3,644	3,820	3,346	1·14	1·19	1·04	27 Feb., 1874
Lambton	807	3,436	3,159	2,796	4·26	3·95	3·46	24 June, 1871
Carrington	435	2,137	2,547	2,685	4·91	5·86	6·17	30 March, 1887
Plattsburg	2,566	3,301	3,177	2,661	1·29	1·24	1·04	27 Dec., 1876
Adamstown	973	2,030	2,420	2,660	2·09	2·49	2·73	31 Dec., 1885
Stockton	768	2,417	2,549	2,106	3·15	3·32	2·74	12 Oct., 1889
New Lambton	2,560	1,548	1,578	1,827	0·60	0·62	0·71	8 Jan., 1889
Total	18,979	49,910	53,741	55,380	2·63	2·83	2·92	

Like the city of Sydney, the city of Newcastle is becoming increasingly dependent upon its suburban centres for residential accommodation, the central municipality being more and more utilised for the transactions of commerce and for the industries of a great shipping port. During the lapse of the ten years from the census enumeration of 1891 to that of 1901, the population of Newcastle remained stationary, and from 1901 to 1911 it declined by 601 persons. Wickham, Hamilton, Waratah, Carrington, and Adamstown all experienced a steady growth of population, and New Lambton a slight increase; but the five remaining municipalities of the Newcastle group suffered from the development of freshly discovered coal deposits farther afield. Merewether gained 208 and Wallsend 176 inhabitants in the decade from 1891 to 1901, but lost respectively 396 and 474 in the ten years that ended with 1911. Lambton lost 277 inhabitants between the years 1891 and 1901, and 363 between the years 1901 and 1911, or a total decrease for the two decades of 640; Plattsburg lost 124 inhabitants between the years 1891 and 1901, and 516 between the years 1901 and 1911, or a total decrease for the two decades of 640; and Stockton lost 368 between the years 1891 and 1901, but having the small increase of fifty-seven inhabitants between the years 1901 and 1911, showed a total decrease of 311 for the two decades. The density of the various municipalities of the Newcastle group ranged, at the census of 1911, from 10·96 persons per acre to 0·71; but of the twelve incorporated areas eleven had more than one person. The city itself had nearly 11 persons to the acre; Wickham, nearly 9; Carrington, slightly over 6; Hamilton, nearly 5; Merewether and Lambton, nearly 4; Adamstown and Stockton, nearly 3; and only New Lambton less than 1—the group, therefore, showed a distinctly urban character.

MUNICIPALITIES OUTSIDE THE METROPOLITAN AREA, 1891-1911.

Exclusive of the municipalities previously discussed in the metropolitan county of Cumberland, and in the Newcastle group of the city and its suburbs, there were in the State of New South Wales, at the time of the census of 1911, one hundred and eighteen incorporated areas of municipal rating; and for the three census periods under review they showed the following results:—

Municipality.	County.	Area in Acres.	Population.			Persons per acre.			Incorporated.
			1891.	1901.	1911.	1891.	1901.	1911.	
Broken Hill ..	Yancoinna ..	16,640	19,789	27,500	30,972	1.19	1.65	1.86	22 Sept., 1888
Goulburn ..	Argyle ..	8,320	10,916	10,612	10,022	1.31	1.28	1.20	4 June, 1859
Bathurst ..	Bathurst ..	2,560	9,162	9,223	8,575	3.53	3.60	3.35	13 Nov., 1862
West Maitland ..	Northumberland ..	9,901	7,295	6,789	8,210	0.74	0.69	0.83	13 Nov., 1863
Lithgow ..	Cook ..	4,192	3,865	5,263	8,196	0.92	1.26	1.95	3 June, 1889
Lismore ..	Ross ..	14,061	2,925	4,378	7,381	0.21	0.31	0.52	4 Mar., 1879
Tamworth ..	Inglis and Parry ..	5,274	4,602	5,793	7,145	0.87	1.10	1.35	17 Mar., 1876
Wagga Wagga ..	Wynyard and Clarendon ..	5,766	4,596	5,108	6,419	0.80	0.89	1.11	15 Mar., 1870
Albury ..	Goulburn ..	18,460	5,447	5,823	6,309	0.29	0.32	0.34	4 June, 1859
North Illawarra ..	Camden ..	7,360	2,515	3,190	5,157	0.34	0.43	0.70	24 Oct., 1868
Central Illawarra ..	" ..	75,776	3,247	4,664	5,000	0.04	0.06	0.07	19 Aug., 1859
Katoomba ..	Cook ..	7,424	1,592	2,270	4,923	0.21	0.31	0.66	31 Oct., 1889
Armidale ..	Sandon ..	2,080	3,826	4,249	4,738	1.84	2.04	2.28	13 Nov., 1863
Grafton ..	Clarence ..	2,520	3,618	4,171	4,681	1.42	1.65	1.86	19 July, 1859
Wollongong ..	Camden ..	1,930	3,041	3,545	4,660	1.58	1.85	2.43	22 Feb., 1859
Inverell ..	Gough ..	10,370	2,534	3,293	4,549	0.24	0.32	0.44	4 Mar., 1872
Dubbo ..	Lincoln ..	2,671	4,555	3,409	4,452	1.71	1.28	1.70	16 Feb., 1872
Forbes ..	Ashburnham and Forbes ..	32,000	3,011	4,294	4,436	0.09	0.13	0.14	27 April, 1870
Cobar ..	Robinson ..	22,048	1,189	3,371	4,430	0.05	0.15	0.20	18 Mar., 1884
Orange ..	Bathurst and Wellington ..	640	2,237	3,990	4,220	5.06	6.23	6.59	9 Jan., 1860
Glen Innes ..	Gough ..	25,600	2,532	2,918	4,089	0.10	0.11	0.16	17 June, 1872
Wellington ..	Wellington ..	4,480	1,545	2,984	3,958	0.34	0.67	0.88	13 May, 1879
Casino ..	Ross and Richmond ..	21,500	1,486	1,926	3,420	0.07	0.09	0.16	14 Jan., 1880
Cowra ..	Bathurst and Forbes ..	5,677	1,546	1,811	3,271	0.27	0.32	0.58	8 May, 1888
Young ..	Monteagle ..	3,400	2,746	2,755	3,139	0.81	0.81	0.92	3 Aug., 1882
East Maitland ..	Northumberland ..	4,538	2,919	3,284	3,108	0.64	0.72	0.88	10 Mar., 1862
Gunnedah ..	Pottinger and Nandewar ..	2,656	1,362	1,910	3,005	0.51	0.72	1.13	17 Sept., 1885
Singleton ..	Northumberland ..	621	2,595	2,872	2,996	4.17	4.62	4.82	30 Jan., 1860
Cootamundra ..	Harden ..	6,080	2,020	2,424	2,967	0.33	0.40	0.49	20 May, 1884
Mudgee ..	Wellington ..	749	2,410	2,739	2,942	3.22	3.72	3.93	21 Feb., 1860
Parkes ..	Ashburnham ..	10,080	2,449	3,181	2,935	0.24	0.32	0.29	28 Feb., 1883
Moree ..	Courallie ..	8,000	1,143	2,298	2,931	0.14	0.29	0.37	3 Dec., 1890
Kempsey ..	Dudley and Macquarie ..	4,051	2,194	2,329	2,862	0.52	0.57	0.71	9 June, 1886
Tenterfield ..	Clive ..	29,440	2,477	2,604	2,792	0.08	0.08	0.09	22 Nov., 1871
Temora ..	Bland ..	5,760	..	1,603	2,784	..	0.28	0.48	22 Dec., 1891
Cudgegong ..	Phillip and Wellington ..	122,880	2,519	2,985	2,673	0.02	0.02	0.02	20 July, 1860
Junee ..	Clarendon ..	5,517	1,682	2,190	2,531	0.30	0.40	0.46	26 July, 1886
Narrabri ..	Nandewar ..	2,560	1,977	2,288	2,514	0.77	0.81	0.98	5 Sept., 1883
East Orange ..	Bathurst and Wellington ..	685	1,827	2,341	2,501	2.67	3.42	3.65	29 Mar., 1888
Deniliquin ..	Townsend ..	32,000	2,273	2,644	2,494	0.07	0.08	0.08	16 Dec., 1868
Hay ..	Waradgery ..	32,000	2,741	3,012	2,461	0.08	0.09	0.08	10 June, 1872
Narrandera ..	Cooper ..	4,640	1,815	2,255	2,374	0.39	0.49	0.51	17 Mar., 1885
Coonamble ..	Leichhardt ..	15,040	1,141	1,680	2,262	0.08	0.11	0.15	3 May, 1880
Quirindi ..	Buckland ..	1,498	1,139	1,676	2,240	0.76	1.11	1.50	24 Dec., 1890
Murwillumbah ..	Ross ..	700	..	..	2,208	..	..	3.15	25 May, 1890
Murrumburrah ..	Harden ..	5,120	1,226	1,448	2,128	0.21	0.28	0.42	25 Feb., 1902
Yass ..	King and Murray ..	28,800	1,770	2,220	2,136	0.06	0.08	0.07	12 Mar., 1873
Cooma ..	Beresford ..	17,664	1,729	1,938	2,063	0.09	0.11	0.11	6 Nov., 1879
Corowa ..	Hume ..	8,040	..	..	2,063	..	..	0.25	13 June, 1903
Ballina ..	Ross ..	5,763	1,084	1,819	2,061	0.19	0.32	0.36	4 June, 1888
Bega ..	Auckland ..	2,300	2,023	1,898	1,969	0.88	0.83	0.86	12 Nov., 1883
Nowra ..	St. Vincent ..	15,552	1,705	1,904	1,884	0.11	0.12	0.12	29 Dec., 1871
Muswellbrook ..	Durham ..	1,120	1,298	1,700	1,861	1.16	1.53	1.60	13 April, 1870
Umarra ..	Clarence ..	28,088	1,592	1,722	1,832	0.05	0.06	0.06	16 Nov., 1871
Camden ..	Camden and Cumberland ..	7,680	1,303	1,719	1,797	0.17	0.22	0.23	6 Feb., 1889
Bowral ..	Camden ..	3,315	2,258	1,752	1,751	0.63	0.53	0.53	17 Feb., 1885
Guilgong ..	Phillip ..	20,480	1,283	1,579	1,736	0.06	0.08	0.08	5 Feb., 1876
Murrumbidgee ..	Brisbane ..	2,480	1,254	1,235	1,692	0.58	0.96	1.32	5 Mar., 1890
Berry ..	Camden ..	21,574	908	1,990	1,621	0.04	0.09	0.07	24 Oct., 1868
Kiama ..	Camden ..	2,304	2,302	1,769	1,601	1.00	0.77	0.69	30 Oct., 1890

Municipality.	County.	Area in Acres.	Population.			Persons per acre.			Incorporated.
			1891.	1901.	1911.	1891.	1901.	1911.	
Bourke ..	Cowper and Gunderbooka	28,100	3,149	2,609	1,593	0.11	0.09	0.05	3 July, 1878
Hillgrove ..	Sandon ..	2,240	..	2,274	1,581	..	1.02	0.71	20 Sept., 1899
Wrightville (late Gladstone)	Robinson ..	5,800	..	1,171	1,568	..	0.21	0.28	25 Sept., 1899
Dungog ..	Durham ..	2,701	..	1,082	1,523	..	0.40	0.56	15 May, 1893
Tumut ..	Wynyard ..	1,120	1,275	1,391	1,517	1.14	1.24	1.35	27 April, 1887
Shellbourn ..	Camden ..	35,720	1,557	1,029	1,512	0.04	0.05	0.04	4 June, 1850
Maclean ..	Clarence ..	1,184	907	1,333	1,506	0.76	1.13	1.27	28 Dec., 1887
Ulladulla ..	St. Vincent ..	28,160	1,582	1,705	1,502	0.07	0.06	0.05	14 April, 1874
Moss Vale ..	Camden ..	18,240	1,240	1,385	1,474	0.07	0.08	0.08	14 Sept., 1888
Blayney ..	Bathurst ..	3,040	1,254	1,529	1,435	0.41	0.50	0.47	31 Oct., 1882
Manilla ..	Darling ..	1,040	..	..	1,390	..	0.85	1.34	11 June, 1901
Molong ..	Ashburnham and Wellington	14,720	1,112	1,254	1,371	0.08	0.09	0.09	13 Nov., 1878
Peak Hill ..	Narronine ..	18,560	..	1,107	1,362	0.08	0.06	0.07	7 Nov., 1894
Walcha ..	Vernon ..	18,880	864	980	1,334	0.05	0.05	0.07	7 Mar., 1889
Queanbeyan ..	Murray ..	5,696	1,262	1,219	1,273	0.22	0.21	0.22	2 Feb., 1885
Narronine ..	Narronine and Ewenmar	755	..	931	1,269	0.31	1.23	1.68	22 April, 1898
Braidwood ..	St. Vincent ..	5,760	1,496	1,551	1,233	0.26	0.27	0.21	24 Mar., 1891
Cordobah ..	Cunningham ..	29,888	742	1,078	1,230	0.02	0.04	0.04	20 May, 1890
Bingara ..	Murchison ..	3,072	738	879	1,213	0.24	0.29	0.39	27 Mar., 1889
South Grafton ..	Clarence ..	1,532	..	976	1,207	..	0.64	0.78	6 Nov., 1896
Taree ..	Macquarie ..	294	716	871	1,205	2.43	2.96	4.10	25 Mar., 1885
Nyngan ..	Canbelego and Oxley	2,970	1,355	1,455	1,200	0.46	0.49	0.40	16 Feb., 1891
Gundagai ..	Clarendon ..	2,080	948	1,487	1,181	0.46	0.71	0.57	14 Aug., 1889
Scone ..	Brisbane ..	1,190	876	1,145	1,156	0.74	0.66	0.97	25 April, 1888
Grenfell ..	Monteagle ..	346	745	869	1,145	2.15	2.31	3.31	3 May, 1888
Warren ..	Eweninar and Oxley	14,592	..	1,175	1,142	..	0.08	0.08	23 April, 1895
Coraki ..	Richmond and Rous	2,560	538	770	1,138	0.21	0.30	0.44	2 April, 1891
Barraba ..	Darling ..	840	..	..	1,125	..	..	1.34	19 May, 1906
Port Macquarie ..	Macquarie ..	3,520	961	1,160	1,119	0.27	0.32	0.32	14 Mar., 1887
Jamberoo ..	Camden ..	40,640	2,235	1,291	1,100	0.05	0.03	0.03	11 Aug., 1859
Morpeth ..	Northumberland ..	666	1,138	1,288	1,064	1.71	1.93	1.60	14 Dec., 1865
Wyalong ..	Bland and Gipps	32,000	..	1,515	1,042	..	0.05	0.03	19 Dec., 1899
Uralla ..	Sandon ..	320	819	681	1,019	2.58	2.13	3.18	24 April, 1882
Wallendbeen ..	Bland and Harden	63,360	..	736	1,019	..	0.01	0.02	21 May, 1892
Mittagong ..	Camden ..	2,304	1,468	1,210	976	0.64	0.53	0.42	24 July, 1889
Wingham ..	Macquarie ..	2,029	494	556	970	0.24	0.27	0.48	26 June, 1889
Pictou ..	Camden ..	2,317	..	1,053	954	..	0.45	0.41	14 Mar., 1895
Mullumbimby ..	Rous ..	1,120	..	..	961	..	..	0.85	1 July, 1908
Moruya ..	Dampier ..	12,160	1,236	1,099	945	0.10	0.09	0.08	13 Mar., 1891
Raymond Terrace ..	Gloucester ..	384	899	823	911	2.34	2.14	2.37	7 July, 1884
Burrowa ..	King ..	21,760	767	839	891	0.03	0.04	0.04	8 Dec., 1888
Greta ..	Northumberland ..	3,072	1,751	861	858	0.57	0.28	0.28	2 May, 1890
Moama ..	Cadell ..	32,180	716	928	841	0.02	0.03	0.03	29 Dec., 1890
Bombala ..	Wellesley ..	1,299	1,101	936	827	0.85	0.76	0.64	26 Nov., 1890
West Narrabri ..	White ..	1,459	..	677	806	..	0.46	0.55	26 Sept., 1895
Brewarrina ..	Clyde ..	16,000	..	683	798	..	0.04	0.05	12 Jan., 1901
Gerrington ..	Camden ..	27,360	1,534	1,051	794	0.10	0.11	0.16	22 April, 1871
Warialda ..	Burnett ..	5,248	..	875	782	..	0.17	0.15	30 Mar., 1900
Aherdeen ..	Durham ..	1,491	..	749	734	..	0.50	0.49	18 Dec., 1894
*South Shoalhaven ..	St. Vincent ..	25,920	1,139	909	721	0.04	0.03	0.03	14 Dec., 1895
Balranald ..	Caira ..	30,720	637	741	720	0.02	0.02	0.02	27 Sept., 1882
Jerilderie ..	Urana ..	32,000	541	744	718	0.02	0.02	0.02	4 Nov., 1889
Wilcannia ..	Young ..	13,440	1,287	935	670	0.09	0.07	0.05	3 Feb., 1883
Hillston ..	Franklin and Nicholson	33,000	734	843	644	0.02	0.03	0.02	8 Dec., 1888
Cudal ..	Ashburnham ..	25,600	447	599	574	0.02	0.02	0.02	20 Oct., 1890
Wentworth ..	Wentworth ..	21,939	801	642	558	0.04	0.03	0.03	23 Jan., 1879
Carcoar ..	Bathurst ..	429	562	578	535	1.31	1.35	1.25	11 Nov., 1878
Broughton Vale ..	Camden ..	15,040	424	322	236	0.03	0.02	0.01	23 April, 1871
†Silvertown ..	Yancowinna ..	26,240	1,397	286	..	0.05	0.01	..	22 Oct., 1886
‡Hill End ..	Wellington ..	1,100	814	645	..	0.74	0.58	..	6 Aug., 1873
§Gosford ..	Northumberland ..	1,837	685	751	..	0.37	0.41	..	10 Nov., 1886
Total, Extra-Metropolitan Municipalities ..		1,520,126	216,214	265,675	336,206	0.14	0.17	0.20	....

*South Shoalhaven was the name given to the amalgamated municipalities of Numba and Central Shoalhaven, which (at the census of 1891) had respective populations numbering 688 and 451—total 1,139, as shown above for South Shoalhaven at the date of the Census 1891.

† Included in the Western Division of the State.

‡ Included in Turon Shire, 17th June, 1908.

§ Included in Erina Shire, of which it is the headquarters, 22nd January, 1908.

CHANGES IN MUNICIPAL STATUS AND AREAS.

During the period 1891-1911 some changes took place in municipal development other than the formation of new municipalites and the enlargement in area of existing incorporated districts. The disappearance of Numba and Central Shoalhaven and their amalgamation under the new name of South Shoalhaven have already been noted. Camperdown has been merged into the municipality of Sydney. Gosford, Hill End, and Silverton have ceased as municipal entities, the first-named adding its population to that of Erina Shire, the second to Turon Shire, and the third being included in the great unincorporated section of the State known as the Western Division. The municipality of South Singleton, which appeared in the census enumeration of 1891 with a population of 802 inhabitants and in that of 1901 with a population of 955, was, on the 7th June, 1906, amalgamated with the old borough of Singleton, which dates from the 30th January, 1866, while the junior district, which it has absorbed, was proclaimed a municipal district on the 10th December, 1884. What is now known as Kiama appeared in the census of 1891 as East Kiama, and the "Kiama" of that census is now known as Jamberoo.

Since the last census the following amalgamations and other changes have taken place:—On the 24th December, 1912, Cudal ceased separate existence as a municipality and became part of Boree Shire; on the 27th December, 1912, Moruya was merged into Eurobodalla Shire; on the 27th June, 1913, Mulgoa became part of Nepean Shire; and on the 20th October, 1915, East Orange which had been proclaimed a borough on the 29th March, 1888, was added to the older municipality of Orange, which had been proclaimed a borough on the 9th January, 1860.

Of the municipal towns in the foregoing lists some show remarkable development, and others as remarkable decline. The population of the copper-centre of Cobar increased from 1,189 in 1891 to 4,430 in 1911, or practically fourfold. Katoomba, as a result of its popularity as a health-resort in the heart of the Blue Mountains, increased from a population of 1,592 to 4,923, or over threefold, during the two decades covered by the three census dates. Lithgow, Lismore, Wellington, Casino, Cowra, Gunnedah, and Moree have more than doubled their populations during the same period. The municipal towns which showed a prosperous growth throughout the two decades included Tamworth, Inverell, Glen Innes, Temora, Junee, Coonamble, Quirindi, Murwillumbah, Murrumburrah, Berry (unique for that reason among New South Wales south coastal towns), Dungog, Maclean, Manilla, Walcha, Bingara, South Grafton, Taree, Coraki, Barraba, Uralla, Wingham, and Mullumbimby.

The prosperous development of the coastal towns north of Sydney was due very largely to the land settlement which followed the opening of the North Coast Railway to traffic, and the unlocking of huge areas of dairying country and timbered forests to exploitation. Many of the dairy-farmers of the South Coast districts sold out and reinvested their capital in the more favoured North Coast. The municipal towns of the South Coast Division, which have markedly retrograded, and the populations of which have declined since 1891, include Bega, Nowra, Shell-harbour, and Ulladulla.

Some municipal centres have, for the twenty years 1891-1911, shown a steady growth, varying from good to moderate or gradual. Among these may be listed: Broken Hill, West Maitland, Wagga Wagga, Armidale, Grafton, Wollongong, Forbes, Orange, Young, Singleton, Coota-

mundra, Mudgee, Kempsey, East Orange (now incorporated with the older municipality of nearly similar name), Narrandera, Muswellbrook, Gulgong, Murrurundi, Wrightville, Condobolin, Wallendbeen, and West Narrabri. Certain municipal centres showed a very slow growth, amounting in some cases to a condition little better than stagnation. Their populations advanced by tens instead of hundreds, and were not much more than stationary. Among such, in varying degrees, were Albury, Tenterfield, Narrabri, Deniliquin, Cooma, Corowa, Ballina, Ulmarra, Tumut, Moss Vale, Molong, Peak Hill, Queanbeyan, Braidwood, Scone, Grenfell, Raymond Terrace, Burrowa, and Brewarrina. The reason for the small progress of these places may be found in the character of the surrounding country. The urban needs of a farming population are small, and are soon completely supplied; and unless local manufactures are developed, as in Lithgow, the country town of the hinterland will languish if it attempts to exceed the demands made upon its limited resources as a *dépôt* of exchange and the emporium of small necessities, for a great bulk of the trade done by an agricultural or pastoral population is directly metropolitan.

A number of municipal centres showed, indeed, a gradual decline, such as Goulburn, Camden, Bowral, Kiama, Moruya, Moama, Bombala, Gerringong, Wialda, Wentworth, and Broughton Vale. A few places evinced their decline in population, and the lowering prosperity of which such decline is evidence, since 1891, as, for instance, Bathurst, East Maitland, Parkes, Hay, and Yass. Some centres declined from the census of 1891 to that of 1901, but recovered at the census 1911, though not always to the extent of rehabilitation. Of such were Dubbo, Blayney, Nyngan, Gundagai, Warren, Port Macquarie, Morpeth, Wyalong, Picton, Balranald, Jerilderie, Hillston, Cudal, and Carcarr. A few municipal towns evinced in the records of their population a great reverse of their former fortunes. Bourke's population from 1891 to 1911 declined by about half; and others almost equally decadent were Jamberoo, Hillgrove, Mittagong, Greta, Aberdeen, South Shoalhaven, and Wilcannia, of which number the fate of mining-centres need occasion no surprise, as a goldfield has never an existence more than transient, and the decline of a coalfield is generally the mere following of the seam farther in other directions.

The foregoing lists contain certain anomalies and periodical differences, which require attention in making a comparison between the urban populations enumerated at the three census periods of 1891, 1901, and 1911. The Shires Act became law in 1905; and in the year following the Local Government Act was passed, and provided the necessary machinery. This new legislation required a readjustment of areas, and of their inhabitants and resources. Some municipalities had declined, both in prosperity and in population. In the work of reconstruction, and in the application of a more extended sphere to the principles of local government, Gosford became absorbed in the shire of Erina, Hill End in that of Turon, and Silvertown in the vast expanse of the Western Division. Since the census of 1911, other changes have taken place; Mulgoa has lost municipal dignity, and become part of Nepean Shire; Moruya also has disappeared from the list of municipalities, to become part of Eurobodalla Shire; the municipality of East Orange has been merged with Orange proper; Cudal has ceased to be a municipality, and has been included in Boree Shire; Dorrig Shire has been divided to provide the new Shire of Nymboida; Bellingen Shire has sustained similar treatment to provide the new shire of Nambucca; and finally, so far, the municipality of Wallsend has been increased both in area and in population by its absorption of its neighbouring municipality of Plattsburg. It must be noted also that the municipalities of Numba and Central Shoalhaven,

recorded in the census of 1891 with respective populations of 688 and 451 (total, 1,139), were combined in the new municipality of South Shoalhaven, in the year 1895.

In the second part of this inquiry the population of New South Wales is given in counties, arranged in Divisions and in Territorial Areas, in order that comparisons with the results of previous census periods may be instituted. The subdivision of the State into shires dates only from the 1st January, 1907, for all practical purposes connected with the collection of statistics, and the first population returns for shire-areas were made from the results of the census of 1911. The shire boundaries do not fall co terminously within county and divisional boundaries, hence the population of Divisions comprising shires and municipalities would not agree with the population of Divisions based on the number of persons in each county.

ANOMALIES OF ENUMERATION.

In the list of "Localities" for the census year 1911, the absence of names of certain municipalities will be noticed. The name Cudgegong certainly appears, but it is that of a village miles distant, in a south-easterly direction, from the municipality of the same name. Central Illawarra and North Illawarra do not appear at all as "Localities." Bellambi and Corrimal, the principal towns in the municipality of the latter, and Unanderra and Dapto, the principal towns in the municipality of the former, are all four given with their populations. The municipality of Ulladulla receives "Locality" mention, and its population, which was 1,502 inhabitants, is given as 224; but Milton, the town of the district, is given with a population of 1,084. Kembla, with a population of 878, is also listed as a locality. Kembla Heights and Mount Kembla are both postal towns; Kembla Grange is a railway station; and Port Kembla's name defines its character. Moreover, Mount Kembla and Port Kembla both appear in the list of "Localities," with populations of 332 and 844 respectively; and Mount Kembla appears also in the list of villages in the 1901 census enumeration, with 263 inhabitants. The sudden appearance of the place-name Kembla, otherwise unqualified, gives no clue to its geographical identity. Mount Keira, another new place-name in population lists, belongs to the same district; but whether its inhabitants are resident in the incorporated area of the municipality of North Illawarra, or the unincorporated part of the county of Camden, does not appear plainly. Islington, with 2,841 inhabitants, appears in the list as simply a "Locality" in the county of Northumberland, but local knowledge is requisite to enable the reader to recognise in the name a part of the incorporated city of Newcastle. Of Tighe's Hill, the same remark can be made just as pertinently. The word "Arm" is repeatedly used as a place-name with reference to coastal counties. The combinations "North Arm," "South Arm," etc., are not very distinctive in a geographical sense; but when employed with a determinate application to any given part of the coast, so as to be identifiable, duplication need not cause confusion (though it is a highly reprehensible practice), and "South Arm" is as much a recognisable place-name as "Taylor's Arm," if the county be associated with the indentation defined as such.

Some statements are not, of course, amenable to rectification, because at the time of the census enumeration of 1901 certain subsequent legislation was not anticipated. One instance will serve as an example applicable to many: Gloucester, a village in the county of the same name, had seventy-six inhabitants in the census year 1891; in 1901 they numbered only seventy-nine, but in 1905, Gloucester was incorporated as a shire, and the census of

1911 recorded for the shire a population of 3,380, and for the "Locality" of Gloucester a population of 1,472, the latter being obviously out of all proportion with its previously recorded number of inhabitants.

The censuses of 1891 and 1901 gave Newington as a town-centre, with 953 and 592 inhabitants respectively, but Newington should be deducted from the figures involved in a comparison of the urban and rural elements of the population, because it was an asylum for the aged and infirm, and in no sense urban. Kenmore, with populations of 884 and 1,399 inhabitants for the census periods 1901 and 1911 respectively, should be subtracted also from comparison results, as it is an asylum for the mentally afflicted. Glenbrook, a little village on the eastern face of the Blue Mountains, had, at the three census enumerations under review, a population which slowly increased from 116 to 123 and to 274. At the time the last census was taken, an additional population of 1,017, of which number 266 were females, gave an aggregation which assumed quite urban proportions, but the Glenbrook railway-camp cannot be classed as urban nevertheless; neither can Mort's Estate, with 608 inhabitants, and situated also in the county of Cook, be regarded as a town-centre, notwithstanding its possession of over 500 inhabitants. The gold-fields of Acacia Dam, Grenfell, Alectown, Swamp Oak, Little Plain, Neville, Bora Creek, Lucknow, and Lewis Ponds; the copper mine of McPhail, and the shale plant at Joadja Creek should likewise all be left out in a consideration of the urban and rural populations of the State as compared at the three census periods of 1891, 1901, and 1911.

FLUCTUATIONS OF UNINCORPORATED URBAN POPULATION, 1891-1911.

In order to institute a comparison between the three census periods of 1891, 1901, and 1911, it will be necessary to enumerate the populations of towns and villages that have, at one or other decade, fallen behind the standard of 500 inhabitants adopted as an urban basis. The towns and villages of 500 inhabitants and upwards in the census years of 1891 and 1901, including such as have since the year 1891 become incorporated as municipalities, and extra-metropolitan centres in the county of Cumberland, were as follow:—

Town or Village.	Population under 500.			Population over 500.		Incorporated.
	1891.	1901.	1911.	1891.	1901.	
*Hillgrove	2,412	...	1899
Sunny Corner	260	1,677	515	...
*Peak Hill	1,557	...	1894
Nymagee...	379	1,321	881	...
*Pictou	1,176	...	1895
*Corowa	1,171	2,046	1903
Major's Creek	337	966	611	...
Newington	—	953	592	...
Swamp Oak	113	233	947	...	...
*Temora	915	...	1891
Heathcote	94	73	893	...	...
*Dungog	878	...	1893
*Warren	860	...	1895
*South Grafton	827	—	1896

* Urban centres subsequently formed into municipalities.

Town or Village.	Population under 500.			Population over 500.		Incorporated.
	1891.	1901.	1911.	1891.	1901.	
Little River	—	—	—	807	—	...
Lewis Ponds ... ..	...	293	241	747	...	...
Taralga ... ..	...	359	468	723	...	...
Mount Victoria ... ..	...	...	...	664	556	...
Alectown... ..	...	264	317	633	...	...
Joadja ... ..	...	...	...	625	...	...
Acacia Dam ... ..	...	...	...	563	...	...
Glen Mitchell ... ..	...	...	...	558	...	...
Wattle Flat ... ..	...	...	415	539	671	...
Burraborang ... ..	...	492	411	531	...	...
Kangaloon ... ..	...	...	357	530	502	...
Burruga ... ..	...	...	472	528	954	...
Rooty Hill ... ..	...	284	—	527	...	...
Hinton ... ..	...	427	411	524	...	...
Cambewarra ... ..	...	342	402	517	..	...
Wolumla... ..	..	441	450	511	...	...
Blacktown ... ..	...	...	449	506	522	...
West Wyalong	—	...	—	—	1,696	..
*Manilla (with Upper Manilla)..	407	...	...	...	1,269	1901
Dubbo (outside Municipality)...	—	...	—	—	1,083	...
Lucknow... ..	310	...	459	...	1,077	...
*Murwillumbah	492	...	...	...	953	1902
Hexham	335	...	334	..	915	...
Dural	295	...	443	...	864	...
Drake	71	..	347	...	814	..
*Barraba	413	...	...	...	747	1906
Rous	328	...	430	...	685	...
Pokolbin	329	...	354	...	655	..
Catherine Hill Bay	354	...	476	...	651	...
Dubbo-Newtown	—	—	—	—	621	...
McPhail	—	...	92	—	616	...
Bora Creek	—	...	—	—	570	...
Captain's Flat	488	...	206	...	558	...
Seven Hills	454	...	459	...	527	...
Little Plain	261	...	319	...	503	...
Neville	—	...	376	—	500	...
*Brewarrina	489	...	...	...	...	1901
*Warialda... ..	400	...	...	...	...	1900
*West Narrabri	384	...	..	...	...	1895
*Narromine	236	...	...	...	...	1898
*Wallendbeen	189	...	...	...	...	1892
*Wrightville (late Gladstone) ...	176	..	...	...	...	1899
*Aberdeen... ..	106	...	...	...	...	1894
*Mullumbimby	—	428	...	—	...	1908
Total, over 500 Inhabitants ...				26,586	23,154	...

* Urban centres subsequently formed into municipalities.

THE UNINCORPORATED URBAN POPULATION OF THE COUNTY OF
CUMBERLAND, 1891-1911.

The places in the county of Cumberland, of 500 inhabitants and upwards, which have not yet been incorporated as municipalities, together with certain villages which have since been incorporated in the area of Ku-ring-gai Shire, were, at the census of 1911 and the two preceding enumerations, represented by the following populations:—

Unincorporated Town, Village, or Locality.	Population under 500.		Population over 500.		
	1891.	1901.	1891.	1901.	1911.
Hornsby	423	...	...	1,818	2,213
Helensburgh ... ..	...	...	...	1,611	1,838
Sutherland (with Como) ...	492	...	...	602	1,222
Thirroul (late Robinsville)...	442	409	...	...	1,025
Carlingford ... ..	...	...	680	524	1,013
Epping ... ..	...	376	...	...	1,001
Riverstone	380	...	...	992	981
Beecroft	205	470	...	...	953
Normanhurst ... ..	...	...	...	...	953
Pennant Hills	303	...	...	693	899
Coledale ... ..	...	...	...	...	794
Baulkham Hills	377	493	...	...	743
Scarborough ... ..	...	...	...	...	703
Cronulla ... ..	...	...	...	...	636
Clifton	452	...	...	594	571
Castle Hill ... ..	...	415	537	...	568
Forrester ... ..	...	80	...	...	559
Pymble	—	...	—	941	...
Turramurra	—	...	—	783	...
Wahroonga	—	...	—	784	...
Gordon (headquarters Ku- ring-gai Shire)	—	...	—	653	...
Total, over 500 Inhabitants ...			1,217	10,003	16,672

* Included in Ku-ring-gai Shire in 1911.

In making a final computation, a few localities which have since achieved municipal rank in the county of Cumberland will have to be considered; but it must be remarked in passing that the census enumeration of 1891 records only Auburn (population 2,026), Canley Vale (105), Ingleburn (217), and Bankstown (108); and that no mention is made of Mulgoa, Ermington, Rydalmere, Castlereagh, and Cabramatta. Of these prospective municipalities the population of Auburn only is included among urban centres in 1891.

The districts referred to are shown in the following list:—

Locality.	1891.		Incorporated.
	Under 500 Inhabitants.	Over 500 Inhabitants.	
Auburn ... ..	...	2,026	1892
Mulgoa ... ..	...	698	1893
Ermington and Rydalmere ...	...	685	1891
Castlereagh ... ..	...	532	1895
Cabramatta and Canley Vale ...	475	...	1892
Ingleburn	217	...	1896
Bankstown	108	...	1895

POPULATION OF NEW SOUTH WALES, 1891-1911.

The following table shows the urban and rural population at each of the three census periods of 1891, 1901, and 1911, according to the method hitherto adopted; the urban centres of Corrimal, Milton, Dapto, Bellambi, and Unanderra, in the Division of the South Coast, and included within municipal boundaries, are not given. It is noticeable that the "Remainder of the State," which it has been customary to describe somewhat vaguely as "Rural," shows a declension in population, which, if based on indisputable evidence, would be as alarming as abnormal. But an experience of population returns of municipalities of defined boundaries shows an over-statement amounting in some Divisions of the State to 23 per cent., and for the whole State to over 12 per cent. The probability of over-statement of population in "Localities" of which the boundaries are undefined may, therefore, be assumed to be much higher than with respect to municipalities, the areas of which have been accurately determined.

Division.	Population.		
	1891.	1901.	1911.
Sydney and Suburbs	383,253	481,830	629,503
Extra-metropolitan Municipalities	304,905	370,080	422,491
Towns and Villages of 500 Inhabitants and upwards.	51,963	81,484	175,303
Total, Quasi-urban Population...	740,151	933,394	1,227,297
Remainder of the State (Rural)...	378,099	413,326	411,281
Federal Capital Territory	—	—	1,714
Lord Howe Island	55	100	105
Shipping	5,649	8,026	8,051
Total, Whole State	1,123,954	1,354,816	1,648,448

The foregoing table, which dissects the population into metropolitan, municipal (extra-metropolis), non-municipal town, and the remainder of the State constituents, shows a gradual growth of Sydney and suburbs, a slight progressive increase for the extra-metropolitan municipalities, and an ascendancy altogether disproportionate for the non-municipal towns of 500 inhabitants and upwards in the second decade, even if every allowance be made for the great extension during the last ten years of new coalfields areas, the opening up of virgin tracts by coastal railway development, and the operation of the Shires and Local Government Acts, respectively.

COASTAL CITIES AND INLAND TOWNS.

The aggregation of a great number of people in Sydney, as in other Australasian seaboard cities, need furnish no food for theories concerning congestion. It is the experience and the fate of capital cities, situated on the coast-line, the wide world over, and more particularly of the younger settled countries like Australia, New Zealand, and America. This experience is, moreover, not confined to capital cities; and a port like that of Newcastle is the resort and the objective of an overseas contingent similarly to Sydney, though to a less extent. Sydney is a changing-house for immigrants, and a haven of refuge and a field of exploitation for adventurers. There is, however, little likelihood of a congested urban population in the extra-metropolitan districts, because an excess population cannot be utilized; there is no surplus for the use of dormant energy as in a metropolis; and

there is no escape from the rigid conditions of local existence as on the sea-board. Few centres of an urban character remain unincorporated as municipalities (many have an extraordinary sparseness of population with regard to proportionate density of settlement), hence it may justly be assumed that the greater number of "Localities," loosely accepted as urban, are not in any indisputable sense towns; but are merely postal centres of varying importance and development that offer a rallying-point, and the conveniences of an address, and other limited advantages to the inhabitants of large districts; and that these postal centres, by a laxity of terminology, gain credit for a populousness not verified by a closer investigation of their claims.

GROWTH OF POPULATION IN DIVISIONS OF THE STATE.

The foregoing statement of the urban and rural population of New South Wales is based entirely on returns primarily relating to localities, and from what has been said it is obvious that geographical terms have been very loosely employed in determining the importance of places classed as towns. The character of a place is determined by the occupations pursued in its vicinity, and the operations of primary producers are largely dependent on the magnitude of the area over which they are employed. Agriculture, sheep-farming, dairy-farming, mining, hunting and trapping, and the conservation of forests and water, are not the callings followed by townspeople.

In the succeeding pages the population will be shown according to the Divisions into which the counties of the State have been arranged for purposes of statistical classification and reference. These are fifteen in number, namely, the North Coast, the Hunter and Manning, the Metropolitan, the South Coast; the Northern, the Central, and the Southern Tablelands; the North-Western, the Central-Western, and the South-Western Slopes; the North-Central and the Central Plains, and the Riverina; and the two Divisions of the Plains to the east and to the west of the Darling River. In presenting the statistics of population according to the geographical Divisions of the State, and having reference to the occupations pursued by the residents, the population of localities, as collected at the enumeration of the people at the three census periods will also be given; but such ascribed population must not be accepted as any indication of the nature of the industry distinctive of any particular locality, for reasons which have already been detailed.

THE NORTH COAST DIVISION.

The North Coast consists of the six counties of Rous, Richmond, Clarence, Fitzroy, Raleigh, and Dudley, in their geographical order, reading from north to south. The northern boundary of the Division is the Macpherson Range, which forms also part of the southern boundary of the State of Queensland. The southern boundary of the Division is the Hastings Range, from its junction with the Botumburra Range on the west to Dandinalong on the east, thence by a line running northward to Kempsey, and thence north-eastward by the Macleay River to Trial Bay. The eastern boundary of the Division is the South Pacific Ocean, from Grassy Head on the south to Point Danger on the north. The western boundary of the Division is a range of hills running approximately southward from the Macpherson Range on the north to Theresa Mountain; thence, still southerly, to its junction with the Hogarth Range, thence southward to Mount Belmore, thence south-south-east to Mount Marsh, thence south-south-west by Coal Ridge to the Clarence River, thence by Purgatory Creek to the range at Point Gundahl, thence south-south-east to the headquarters of the Nymboida River, thence south-west and south, and following the range, successively to Shea's Knob,

Mount Hyland, Grass Tree Knob, Darkie, and Point Lookout, and from Point Lookout by the Botumburra Range, crossing the Macleay River, and linking with the Hastings Range on the south, near Kemp's Pinnacle and Spokes Hill.

The population of the six counties comprising the Division of the North Coast, and the density of population of persons per square mile, at the three census enumerations of 1891, 1901, and 1911, are shown in the subjoined table:—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Rous	2,281	17,836	27,562	48,557	7·82	12·08	21·29
Clarence	1,377	15,613	17,521	18,161	11·34	12·65	13·19
Raleigh... ..	1,053	3,638	4,631	9,124	3·46	4·40	8·66
Richmond	1,148	3,875	4,741	7,655	3·38	4·13	6·67
Fitzroy	1,539	2,447	3,149	6,871	1·59	2·05	4·46
Dudley	1,054	5,766	6,316	6,574	5·47	5·93	6·17
Total	8,452	49,175	63,920	26,942	5·82	7·56	11·47

The North Coast is the sugar-growing region of New South Wales. The cane is not, however, now cultivated in the Kempsey District, but this part of the State owed its primary settlement to the devastation of the brush-forests of the littoral rivers, which were for years the source of the supply of a number of unrivalled soft-woods, such as the red-cedar of the Richmond River, the Moreton Bay white-pine, tulip-wood, rosewood, yellow-wood, white-maple, white-beech, myall, marble-wood, mock-orange, and many other varieties of timber-trees. The cleared lands of this warm, moist, and semi-tropical region were then planted with sugar-cane, the area placed under cultivation being greater than at present, and stretching northward from the valley of the Macleay to that of the Tweed. Although the cultivation of the sugar-cane soon extended into the richest portions of the lower valleys of the Clarence, the Richmond, the Tweed, and the Brunswick, the cradle of the industry in this State was the region of which Kempsey was the centre. Now, however, the sugar-cane is confined practically to the valleys of the Richmond, the Tweed, and the Clarence, and nearly the whole of the area under this crop lies within the counties of Rous, Clarence, and Richmond. Moreover, mills have been erected in the chief centres of cane-cultivation, and the manufacture of sugar has been developed by the Colonial Sugar Refining Company, so that for a number of years the industry was one of the best established in the north-eastern section of the State. Queensland is becoming more and more the exclusive grower of the sugar-cane on account of its great freedom from frosts owing to an essentially tropical climate. The Northern Rivers have since developed, therefore, on the lines of intensive cultivation in mixed and dairy farming, particularly in the latter. The river-banks are closely occupied by a number of small and moderate-sized holdings, and the rich alluvial soil produces abundant crops of maize, lucerne, and sorghum for the feeding of the dairy stock, pigs, and poultry, the trade in which is now gradually ousting the sugar industry that gave the region its first commercial impetus.

In the course of a decade the area under sugar-crops has decreased from 10,378 to 6,012 acres; and the production, which for a single year has been as high as 277,390 tons, has fallen to 157,748, and it has been as low as 131,081 tons.

The growth of the county of Clarence and of its chief town was gradual, while that of the county of Rous and of its chief town was rapid and vigorous, a result due in the latter case to the development of the country by the construction of the Grafton to Tweed railway, and to the proximity of the north-easternmost county of New South Wales to the neighbouring State of Queensland. Since the taking of the 1911 census, the Clarence District has, however, received a fresh impetus to prosperity in the partial linking-up of the whole of the littoral by the North Coast Railway, which is now open to traffic from Newcastle to Wauchope in a northerly, and from South Grafton to Glenreagh in a southerly, direction. At the taking of the census of 1911, the population density of the county of Clarence, 13.19 persons per square mile, was seventh in order in the list of the State's 141 counties.

The following table shows the municipal population of the Division of the North Coast in boroughs and municipal districts, and the counties in which these are situated, for the three census enumerations of 1891, 1901, and 1911 :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Lismore ...	Rous ...	2,925	4,378	7,381
Grafton ...	Clarence ...	3,618	4,171	4,681
Casino ..	Rous and Richmond ...	1,486	1,926	3,420
Kempsey ...	Dudley ...	2,134	2,329	2,862
Murwillumbah ...	Rous ...	...	...	2,206
Ballina ...	Rous ...	1,084	1,819	2,061
Ullmarra ...	Clarence ...	1,592	1,722	1,832
Maclean ...	Clarence ...	907	1,333	1,506
South Grafton ...	Clarence ...	...	976	1,207
Coraki ...	Richmond and Rous ...	538	770	1,138
Mullumbimby ...	Rous ...	...	...	951
Total, Municipalities ...		14,344	19,424	29,245

The municipal population of the Division at the census of 1891 was 14,344, and it gained, during the first decade of the period under review, 5,080 persons, 9,821 for the second decade, and 14,901 for the combined twenty years, advancing by over 35 per cent. for the first and over 50½ per cent. for the second decade, or nearly 104 per cent. for the period marked by the census years of 1891 and 1911. Part of this addition is due to the inclusion of the municipal districts of South Grafton (in 1901), and of Murwillumbah and Mullumbimby (in 1911).

Lismore first appeared in a census enumeration in 1871, with a population of 93, which had grown to 992 in 1881, its incorporation as a municipal district dating from the 4th March, 1879. Grafton first appeared in a census enumeration in 1851, with a population of 319 persons; by 1856 it had increased to 655, by 1861 to 1,441, having been incorporated as a borough on the 19th July, 1859. The population of Grafton reached 2,250 in 1871, and 3,891 in 1881. Casino first appeared in the census enumeration of 1871, with a population of 284 persons, and was incorporated as a municipal district on the 14th January, 1880; in 1881 its population was recorded as 718. Kempsey dates from the census enumeration of 1851 with a population of 123, which fell to 112 in 1856, in 1861 it was 233; it reached 865 by 1871, and 1,321 by 1881, and was incorporated as a borough on the 9th June, 1886. Ballina dates from 1881 with a population of 359 persons, and it was incorporated as a municipal district on the 4th June, 1883.

Ulmara was incorporated as a municipal district on the 16th November, 1871, and made its first appearance in a census enumeration in 1881 with a population of 1,560 persons. Maclean made its first appearance in 1871 with a population of 139, which reached 498 by 1881; and it was incorporated on the 28th December, 1889. Coraki was incorporated on the 2nd April, 1891, the year in which it first appeared in a census enumeration.

Lismore, though possessing a density of only 0·52 persons per acre, is the most populous town in the Division, notwithstanding the fact that the older seaport of Grafton has claims to metropolitan importance whenever the formation of a Northern Rivers State is being advocated. In any case, Grafton is more entitled to be considered urban, as, with an area of 2,520 acres against Lismore's 14,061 acres, its density was 1·86 persons per acre.

The subjoined table shows the unincorporated towns and villages, and "Localities" (not otherwise defined) at the three successive census periods under examination.

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Bellingen ...	Raleigh ..	316	323	...	...	1,615
Dorrigo... ..	Fitzroy ...	—	51	—	...	1,395
Kyogle	Rous	—	59	—	...	1,347
Byron Bay ...	"	—	380	—	...	1,222
Coff's Harbour ...	Fitzroy ...	177	123	...	...	1,114
Bangalow	Rous	—	186	—	...	1,057
Alstonville ...	"	485	...	...	651	1,001
Woodburn	Clarence...	...	...	842	585	853
Woodford and } Brushgrove }	" ... ..	...	...	996	670	847
Dunoon... ..	Rous	—	163	—	...	771
Tweed Heads ...	"	—	298	—	...	712
Nimbin... ..	"	—	64	—	...	666
Southgate	Clarence...	178	...	...	620	656
Taylor's Arm ...	Raleigh ...	—	—	—	—	588
Lawrence	Clarence...	354	...	...	558	581
Bowra	Raleigh ...	119	277	...	...	576
Harwood	Clarence...	...	...	519	523	563
Nambucca	Raleigh ...	—	453	—	...	555
Broadwater ...	Richmond ...	492	...	...	695	550
Wardell	Rous	426	390	...	...	547
Raleigh... ..	Raleigh... ..	241	139	...	...	541
Fredericktown...	Dudley ...	343	443	...	...	539
Condong	Rous	—	98	—	...	531
South Arm	Raleigh ...	—	—	—	...	523
Meerschaum ...	Rous	—	188	—	...	513
Macksville ...	Raleigh ..	118	165	...	...	509
						20,372
						under 500
*Murwillumbah ...	Rous	492	...	...	953	...
Rous	"	328	...	...	685	430
*South Grafton ...	Clarence...	...	...	827	...	...
*Mullumbimby ...	Rous	—	428	—	...	...
South Lismore } (outside municipality)	"	—	164	—	—	—
East Coraki ...	"	—	156	—	—	—
Total, over 500 Inhabitants ...				3,184	5,940	20,372

* South Grafton was proclaimed a municipal district, 6th November, 1896; Murwillumbah, 25th May, 1902; Mullumbimby, 1st July, 1903.

Of the thirty-two towns, villages, and localities in the foregoing table, two made their first appearance in the census enumeration in 1871, and three in 1881. Lawrence was accredited in 1871 with a population of 137 persons, and in 1881 with a population of 232. Fredericktown in 1871 was accredited with a population of 188 persons, and in 1881 with a population of 221. In 1881 Bellingen had a population of 583 persons, Wardell 173, and Woodburn 109. Coff's Harbour, Alstonville, Woodford and Brushgrove, Southgate, Harwood, Bowra, Broadwater, Raleigh, Macksville, South Grafton, Rous, and Murwillumbah appeared for the first time in a census enumeration in 1891. Dorrigo, Kyogle, Byron Bay, Bangalow, Dunoon, Tweed Heads, Nimbin, Nambucca, Condong, Meerschaum, Mullumbimby, South Lismore, and East Coraki appeared in a census enumeration for the first time in 1901. Taylor's Arm and South Arm appeared for the first time in a census enumeration in 1911.

The change in the character of the settlement along the river-lands has had its influence in the inflation of local returns of population. At the census of 1911 two new municipalities (Mullumbimby and Murwillumbah) made their first appearance as incorporated communities, with respective populations of 2,206 and 951. At the census of 1901 both places were classed as unincorporated towns; Mullumbimby with a population of 428, and Murwillumbah with a population of 953; while, at the census of 1891, the latter had 492 inhabitants, the former was not mentioned in any list, even of villages of the lowest grade. At the census of 1911, there were recorded as towns and villages, having 500 inhabitants and upwards, no fewer than 26. Of these, 7 only were similarly classed at the census of 1901, and 4 at the census of 1891—and of the four mentioned, one, South Grafton, with a population of 827, was incorporated as a municipality on the 6th November, 1896. The seven towns mentioned above, as appearing in the census of 1901 as unincorporated urban centres, do not include Mullumbimby and Murwillumbah. Of the 26 towns of urban status at the census enumeration of 1911, twelve were unlisted at the census of 1891, and eleven appeared as places having under 500 inhabitants, the three recorded being Woodburn, Woodford, and Harwood; at the succeeding census, Taylor's Arm and South Arm (both in the county of Raleigh) were unlisted, and seventeen were recorded as having under 500 inhabitants. Most of these were the nuclei of river settlements; they now furnish local addresses for the districts of which they stand as stopping-places for boats, and they have thereby come to be regarded as urban, getting credit for a standard of habitancy true only of the hinterland which they serve merely as focalising points.

The following table shows the municipal and non-municipal urban and the rural elements of the population of the counties of the Division of the North Coast, for the census periods of 1891, 1901, and 1911:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Rous ...	Municipal ...	5,495	...	8,123	...	16,019	...
	Non-municipal ...	—	...	2,289	...	8,367	...
	Total ...	5,495	12,341	10,412	17,150	24,386	24,171
Clarence ...	Municipal ...	6,117	...	8,202	...	9,226	...
	Non-municipal ...	3,184	...	2,956	...	3,560	...
	Total ...	9,301	6,312	11,158	6,363	12,726	5,435

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Raleigh ...	Municipal ...	—	...	—	...	—	...
	Non-municipal ...	—	...	—	...	4,907	...
	Total ...	—	3,638	—	4,631	4,907	4,217
Richmond ...	Municipal ...	538	...	770	...	1,138	...
	Non-municipal ...	—	...	695	...	550	...
	Total ...	538	3,337	1,465	3,276	1,688	5,967
Fitzroy ...	Municipal ...	—	...	—	...	—	...
	Non-municipal ...	—	...	—	...	2,509	...
	Total ...	—	2,447	—	3,149	2,509	4,362
Dudley ...	Municipal ...	2,194	...	2,329	...	2,862	...
	Non-municipal ...	—	...	—	...	539	...
	Total ...	2,194	3,572	2,329	3,987	3,401	3,173
Grand Total ...		17,528	31,647	25,364	38,556	49,617	47,325

Many preconceived ideas of the excessive urbanisation of the State are untenable if examined in the light of statistics relating to the density of the population of given areas, and to the occupations of the people; and it is very evident that the former conception of what constituted a town must be surrendered to one more modern and more logical. In the North Coast Division, for instance, it would appear from the classification hitherto adopted that the rural population had declined from 64·36 to 48·82 per cent. in the 20 years from the census of 1891 to that of 1911, the declension between 1901 and 1911 being extremely marked. As will be seen by the table which is given herewith, more than half of the population reside in the county of Rous, the third most densely peopled county in the State, which has shown a greater advance in settlement than any of the other counties constituting the Division. In 1891 the county of Clarence was leading in density of settlement, and Grafton, its chief town, held the position commercially which it has since lost largely to its more northerly situated rival, Lismore.

In the table given above the questionable population totals shown for Dorriggo and Kyogle provoke criticism; but this has already been discussed in another part of the chapter. As factors accentuating the non-urban character of the callings followed by the males in the North Coast Division, attention may be drawn appropriately to the facts that of the class denominated transport and communication, 1,093 were engaged in traffic on the roads, and 464 on seas and rivers; and that of the industrial class, 2,324 were engaged in the construction of buildings, roads, railways, etc., and 1,090 were working in foods, etc. Railway construction and the secondary handling of primary products, as in sugar-mills, butter-factories, saw-mills, etc., will readily account for the incidence of these figures.

For the North Coast Division the overstatement of municipal habitancy, as shown in the table of the population of "Localities," amounted to 5·5 per cent. more than the number of persons living within municipalities of defined areas; but a deduction from the ascribed population of the "Localities" (otherwise undefined) of the North Coast Division

would not greatly inflect the urban and rural elements under consideration. From the view-point of density, the municipalities of the North Coast compare favourably as urban-centres with those of other Divisions of the State; though Ulmarra shows an average holding per person of $15\frac{1}{2}$ acres, Ballina close upon 3 acres, and Coraki about $2\frac{1}{4}$ acres, areas of individual occupation more rural than urban in character. With regard to "Localities," no statistics of density are, of course, available; but the nature of some so-called urban centres can be surmised from that of Woodford Island and Brushgrove, the latter being the more closely settled. Woodford Island is about fifteen or sixteen miles in length, and is noted for its stone-quarries. A population of 847 persons scattered over so large an area cannot seriously be considered a town, and at best can be (as far as Brushgrove is concerned) little more than a village.

The following statement shows the constitution of the population of the Division for the three census periods of 1891, 1901, and 1911 in municipal urban and unincorporated urban and in rural elements:—

	1891.	1901.	1911.
Municipalities	14,341	19,424	29,245
Unincorporated Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards ...	3,184	5,940	20,372
Total, Quasi-urban	17,528	25,364	49,617
Remainder of Division (Rural) ...	31,647	38,556	47,325
Total, Division	49,175	63,920	96,942

The comparative declension of the rural population of the North Coast Division, and the corresponding inflation in the number of town-dwellers during the last two decades, ill accord with the statistics collected at the last census regarding the occupations of the people.

The following table shows the number of breadwinners in the Division, the number of primary producers in their principal sub-orders, and the industrial, commercial, transport and communication, professional, and domestic classes at the census of 1911:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.					
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.
Males ..	33,906	6,406	11,139	145	1,659	19,349	6,667	3,375	2,064	1,489	777	185
Females ..	5,450	159	1,092	—	2	1,253	693	433	53	648	2,310	60
Total ..	39,356	6,565	12,231	145	1,661	20,602	7,360	3,808	2,117	2,137	3,087	245

Of a total population of 96,942, the North Coast Division of the State had a breadwinning section which numbered 39,356 (inclusive of 5,450 females). The dependents on natural guardians in the Division numbered 56,759—a total which excluded a few persons supported by voluntary or State contributions, or under detention for offences against the law. The total number of persons classed as primary producers numbered 20,602, including

1,253 females, who must be regarded as essential factors in production, distinct altogether from the females associated with the males as wives, daughters, and domestic servants. As a matter of fact, the number of females engaged as primary producers was much higher than that given by the results of the census of 1911. The statistics collected by the police relating to persons employed in rural occupations, for the year ended the 31st March, 1911, show that in the North Coast Division no fewer than 6,846 females were engaged in the dairying industry, and 288 in agriculture, or a total of 7,134 in these two descriptions of primary production. They were, however, not exclusively so engaged, a portion of their time being devoted to domestic duties.

Throughout the whole State the females engaged in agriculture numbered 5,228; and in dairying, 19,404, or a total of 24,632. The census of 1911 showed 1,636 females engaged in agriculture, and 3,266 in pastoral pursuits, or a total of 4,902. If these be deducted from the returns collected by the police, the number of females partially employed as primary producers, and partially in the discharge of domestic duties, was as follows:—In agriculture, 3,592; in pastoral pursuits or dairying, 16,138; total, 19,730. This number was, in the census classification, included in the class of dependents on natural guardians; but it emphasises the essentially rural character of the settlement of the State outside the metropolitan area. For the North Coast Division the census enumeration includes 129 females engaged partially in agriculture, and 5,754 partially in pastoral pursuits, or a total of 5,883, in the class dependents on natural guardians.

At the census of 1911 there were throughout the North Coast Division 2,310 females engaged in domestic service and attendance out of a total of 39,356 breadwinners of both sexes, or a proportion of 5·9 per cent. On such a basis no fewer than 1,215 females engaged in domestic service and attendance would be domiciled with primary producers on agricultural holdings, dairy-farms, and grazing areas in the North Coast Division. The proportion of dependents on natural guardians to breadwinners of both sexes within the same area was as 1·44 to 1, their respective numbers being 56,759 and 39,356. The pastoral pursuits of the North Coast Division consist mainly of the various operations of dairy-farming, and the families of this class of primary producers are on an average larger in number than those of most of the other sections of the population—that of the whole State being a proportion of 1·27 to 1. On a proportion, therefore, of 1·44 to 1, the number of dependents on natural guardians in the North Coast Division of the State, based on the figures relating solely to occupations, at the period of the census enumeration of 1911, was 29,667; and inclusive of domestic servants and attendants, and dependents on natural guardians, the class of primary producers, with its two subsidiary sections, was 51,484, or more than half the total population of the Division.

But this estimate excludes altogether persons engaged in works of construction, and in repair of buildings, roads, railways, etc., in rural districts; and it is obviously impossible for primary production to achieve its results without the local assistance of other classes of industry. The above computation has, however, been made on a section of the population comprising exclusively primary producers, their proportionate number of domestic servants and assistants, and the dependents of whom they are the natural guardians. Obviously a number of persons are included in urban populations whose work and whose habitations are in the rural districts. The above estimate, for instance, excludes numerous persons engaged in commercial pursuits which take them about the country in the course of their business; domestics engaged in supplying wayside board

and lodging; country schoolmasters and clergymen; teamsters, coast and river sailors; and many others occupied in the work of transport and communication. Moreover, as far as the North Coast Division is concerned, the primary producers are practically all engaged in agricultural and pastoral (*i.e.* dairying) pursuits, the miners numbering only 145, and other workers 1,661. The last-mentioned group embraces persons engaged in rabbit-trapping and fur-hunting, in fisheries, in forestry, and in water conservation and supply. Persons engaged in mining and quarrying are classed together as mineral producers, and the 145 miners enumerated at the census were probably mostly quarrymen employed at Woodford Island.

The total population of the North Coast Division at the census of 1911 numbered 96,942; and of this total more than half, or 48,557, as has been already pointed out, resided in the county of Rous. Of 39,356 bread-winners (including 5,450 females) in the whole Division, 20,610 (or 17,497 males and 3,113 females) were recorded for that county. The primary producers of Rous numbered 10,779, more than half of that class in the whole Division, and including 810 females. The pastoral industry held first place with 8,535 persons, of which number 733 were females; the agricultural industry coming second with 1,707 persons, only 76 of whom were females. Forestry in the county of Rous engaged the labours of 387 males, and mining of only 47. The industrial class included 1,293 males "engaged in the construction of buildings, roads, railways, etc.," and are probably accounted for to no inconsiderable extent by the railway line under construction at the taking of the census; and 612 "working in food, etc.," a number assignable to the sugar industry once pre-eminently characteristic of the north-east county of the State. The number engaged in "traffic on the roads" in the county of Rous was 432 males, nearly half of the class in which they were enumerated. The non-urban element in the population of this county alone must be more than is apparent from the study of the figures recorded above as representative of the population of municipalities and "Localities."

The nature of settlement in the North Coast Division, and its predominant character as an agricultural and pastoral region can be appreciated from a statement showing the constitution of its bread-winning population, which, at the census of 1911, was as follows:—

Class—Primary Producers	...	...	...	...	...	20,602
„ Industrial	...	...	...	...	...	7,360
„ Commercial	...	...	...	...	...	3,803
„ Domestic	...	...	...	...	...	3,087
„ Professional	...	...	...	...	...	2,137
„ Transport and Communication	...	...	...	...	...	2,117
„ Independents	...	...	...	...	...	245
Total						39,356

The balance of 245, made up of the class Independents, is practically negligible. From a consideration of the foregoing factors in the constitution of the breadwinning section, it appears that the rural population of the North Coast Division was considerably more than it possibly could have been were the claims to recorded populations of quasi-urban centres to be admitted without challenge; and this consideration strengthens the obvious probability of inflation and over-statement of population, due to the habit of referring to a central point in any prescribed district as the local equivalent for the entire area. If the data available were more extensive, the element of over-statement could be ascertained with some degree of exactitude; but it is well known that such a tendency exists, for it has been incontrovertibly established in the case of municipalities with exact areas and recorded populations.

In common with the entire State, with the exception of the Western Division, the North Coast has been apportioned into a number of shires which do not adhere very closely to Divisional or county boundaries, and the transference to large territorial districts of the place-names of small localities within their area is very likely to lead to confusion and duplication. The shires into which the North Coast has been subdivided somewhat roughly are given hereunder, with their headquarters of administration.

Shire.	Headquarters.	Shire.	Headquarters.
Tweed	Murwillumbah	Woodburn	Coraki
Byron	Byron Bay	Harwood	Maclean
Terania	Lismore	Copmanhurst	Grafton
Kyogle	Kyogle	Orara	South Grafton
Tintenbar	Alstonville	Dorrigo	Coramba
Gundurimba	Lismore	Bellingen	Bellingen
Tomki	Casino	Macleay (northern part)	West Kempsey

The old idea of the excessively urban character of the State is shown in the fact that these shires, many of them as large as counties and some of them even larger, are already beginning to be mentioned as urban areas, the prevailing notion apparently being that the only thing necessary to create a town is to issue a proclamation incorporating a defined superficial area of the soil.

At the taking of the census of 1911, the branch line to Kyogle had not yet been opened to traffic, but this Richmond River township and shire-centre already gave signs of future prosperity in the possession of a couple of hotels, several general stores and tradespeople's establishments. Since the completion of the railway its progress has been rapid, as it is surrounded by well-watered grazing lands admirably adapted to dairying, pig-fattening, and similar industries. *Dorrigo*, on the contrary, is less favourably situated, being too far to the eastward of the railway now under construction. Since the taking of the census it has been superseded as a shire headquarters by *Coramba*, a township on the surveyed route of the North Coast line. When the timber has been cut the district will inevitably be occupied for dairy-farming. *Murwillumbah*, itself a municipality, is the headquarters of the shire of *Tweed*, and the terminus of the *Grafton-Casino-Tweed Railway*. *Byron Bay*, the headquarters of *Byron Shire*, has also progressed greatly since the taking of the census of 1911, and the opening of the country to railway communication. *Lismore*, a municipal town, is the shire-centre of *Terania* and *Gundurimba Shires*; *Alstonville*, a river-town on *Wilson's Creek*, an affluent of the *Richmond*, is the shire-centre of *Tintenbar*; the municipal town of *Casino*, of *Tomki Shire*; the municipal town of *Coraki*, of *Woodburn Shire*; the municipal towns of *Maclean*, *Grafton*, and *South Grafton*, respectively of *Harwood*, *Copmanhurst*, and *Orara Shires*; *West Kempsey*, of *Macleay Shire*; and *Bellingen* (itself a municipality) of *Bellingen Shire*. The names of *Kyogle* and *Bellingen* are duplicated in shires and shire-centres, and *Byron Bay* too nearly approximates to *Byron*.

THE DIVISION OF THE HUNTER AND THE MANNING RIVERS.

The *Hunter* and the *Manning* river-basins occupy, broadly speaking, the seven counties of *Macquarie*, *Hawes*, *Brisbane*, *Gloucester*, *Durham*, *Hunter*, and *Northumberland*. This region is washed on its eastern front by the waters of the *Pacific Ocean*, from *Trial Bay* on the north to *Broken Bay* on the south. Its northern boundary consists of the *Lower Macleay River* from its embouchure in *Trial Bay* to the township of *Kempsey*, thence westward along the *Hastings Range*, thence by a spur connecting with the *Main Dividing Range*. Its southern boundary consists of the *Capertee*, *Colo*, and

Hawkesbury Rivers, to the mouth of the last-named at Broken Bay. Its western boundary begins in a north-eastern spur of the Main Dividing Range, thence by the Mount Temi Range and the Liverpool Range, thence southward by the Krui and Goulburn Rivers, Widdin Brook, and Red Creek, to a range running irregularly to the south-west, and containing at intervals the peaks named Mount Baker, Mount Coricudgy, Mount Boonbourwa, and Mount Coorongoba, to the Capertee River.

The following table shows the counties which constitute the Division of the Hunter and the Manning Rivers, with respect to area, population and density, at each of the three census periods of 1891, 1901, and 1911:—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Northumberland ...	2,524	86,618	97,419	122,393	34.32	38.60	48.49
Gloucester ...	3,047	13,492	14,906	19,559	4.42	4.89	6.42
Macquarie ...	2,523	11,973	15,153	18,654	4.75	6.01	7.39
Durham ...	2,117	15,276	17,685	18,512	7.22	8.35	8.74
Brisbane ...	2,281	7,244	8,418	9,986	3.18	3.69	4.38
Hunter ...	2,153	1,963	1,791	2,262	0.91	0.83	1.05
Hawes ...	1,591	248	322	549	0.16	0.20	0.35
Total ...	16,236	136,814	155,694	191,915	8.43	9.59	11.82

During the twenty years under review the Division increased in population by 55,101 persons, or over 40 per cent.; for the first decade 18,880 (nearly 14 per cent.), and for the second 36,221 (nearly 24 per cent.) The county of Northumberland gained for the twenty-years' period 35,775, or 10,801 for the first and 24,974 for the second decade, and the density of persons per square mile ranged from 34.32 in 1891 to 38.60 in 1901, and to 48.49 in 1911. The county of Gloucester was second in population but fourth in density at the census of 1911; its gain amounting to 6,067 persons during the period under review, or 1,414 for the first and 4,653 for the second decade, the density of persons per square mile ranging from 4.42 in 1891 to 4.89 in 1901, and to 6.42 in 1911.

The county of Macquarie was third, both in population and density, its increase for the twenty years 1891-1911 amounting to 6,681, or 3,180 for the first and 3,501 for the second decade, the density of persons per square mile ranging from 4.75 in 1891 to 6.01 in 1901, and to 7.39 in 1911. The county of Durham, fourth in order of population, but second in density, increased by 3,236 during the twenty-years' period, or 2,409 persons for the first, and 827 for the second decade.

The county of Brisbane experienced for the twenty years under review an increase in population of 2,742 persons, or 1,174 for the first, and 1,568 for the second decade; and the density of persons per square mile ranged from 3.18 in 1891 to 3.69 in 1901, and to 4.38 in 1911. The county of Hunter suffered a decrease of 172 inhabitants during the first decade, and experienced a gain of 471 during the second, the difference amounting for the twenty years under review to 299 persons; and the density of persons per square mile ranged from 0.91 in 1891 to 0.83 in 1901, and to 1.05 in 1911. The county of Hawes gained 301 persons to its population during the twenty years 1891-1911, or 74 for the first and 227 for the second decade; the density of persons per square mile ranging from 0.16 in 1891 to 0.20 in 1901, and to 0.35 in 1911.

Northumberland is pre-eminently the coal-mining terrain of the entire Continent, and the most important section of this terrain is comprised in a stretch of country covering a distance of 15 miles, between West Maitland and Cessnock, in which occur what are known as the Greta coal-measures. The population density of this county—48·49 persons per square mile, second only to that of the metropolitan county of Cumberland—is due to the great number of miners engaged in winning coal beneath its surface, and even under the ocean which forms its territorial waters. As a primary producer, the miner, and particularly the coal-miner, is the direct opposite to the agriculturist and the pastoralist in the application of his labour to the sources of raw material. The latter demand a vast expanse of area for profitable exploitation; the former's most valuable work is accomplished in a space of the narrowest circumscription. But apart from its importance as a coal-mining region, the county of Northumberland is noted for crop production of many kinds, fruit-culture, wine-growing, dairy-farming, and cattle-fattening for the meat-markets. It is essentially a county of primary producers, and its urbanisation is far more apparent than real.

The following statement shows the growth of the population of the municipalities in the Division for the three census periods of 1891, 1901, and 1911 :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Newcastle and Suburbs	Northumberland	49,910	53,741	55,380
West Maitland	"	7,295	6,789	8,210
East Maitland...	"	2,919	3,284	3,103
Singleton	Durham	2,595	2,872	2,993
Muswellbrook...	Durham and Brisbane	1,293	1,710	1,861
Murrurundi	Brisbane	1,254	1,235	1,692
Dungog...	Durham and Gloucester	...	1,082	1,523
Taree	Macquarie	716	871	1,205
Scone	Brisbane	876	1,145	1,156
Port Macquarie	Macquarie	961	1,160	1,119
Morpeth	Northumberland	1,138	1,288	1,064
Wingham	Macquarie	494	556	970
Raymond Terrace	Gloucester	899	823	911
Greta	Northumberland	1,751	861	858
Aberdeen	Brisbane and Durham	...	749	734
Gosford...	Northumberland	685	751	*
Total, Municipalities		72,791	78,917	82,782

* In 1911 part of Erina Shire.

The municipal population of the Division of the Hunter and the Manning Rivers at the census of 1891 was 72,791, and during the first decade of the period under review it gained 6,126 persons, 3,865 for the second decade, and 9,991 for the combined twenty years, advancing by over 8 per cent. for the first and by nearly 5 per cent. for the second decade, or nearly 14 per cent. for the period marked by the census years 1891 and 1911. Part of this addition during the first decade was due to the inclusion of the municipal districts of Dungog (in 1893) and Aberdeen (in 1894), though the municipal population lost during the second decade by the decorporation of Gosford, and its inclusion in Erina Shire.

The foregoing table shows a very slow increase in the municipalised urban population for most of the counties in the Division, Northumberland, and Gloucester being in this respect highly satisfactory. The increase in population of the municipal towns in county Macquarie was due doubtless to the great stimulus imparted to that coastal region by the construction of the North Coast Railway line, which alleviated the retardation of progress from which it suffered through lack of inter-communication. The increase for the whole of the county last-named has been continuous for both decades. The county of Durham has enjoyed a less general progress, but the advance in its municipal population has been as similarly marked as that of the county of Macquarie. The county of Brisbane showed for the first decade (1891-1901) a vigorous municipal advance in population, which was not maintained. Murrumbidgee, owing to its importance as a railway centre, maintains a considerable staff of railway workers and their families; but Aberdeen (which is partly in the county of Brisbane and partly in that of Durham) is practically standing still, and Scone (a much older township) is in a similar position.

Newcastle was proclaimed a borough on the 7th June, 1859, but it is almost as old as Sydney and Parramatta. It owes its existence to the discovery of coal by a young Lieutenant of the British Navy named John Shortland, while pursuing some runaway convicts who had seized a Government boat with the object of escaping to China. Newcastle was first known as the Coal River, and afterwards as King's Town, in honour of the third Governor, but its settlement was very tardily undertaken. Ships used to visit the Coal River, or King's Town, and the crews mined for the coal they wanted, and sailed away.

But in a general statement, dated the 30th June, 1805, Newcastle is referred to in association with Sydney, Parramatta, and Hawkesbury, together possessing a population of 7,064, but in a return dated June, 1804, the population of Newcastle was set down as less than 100 persons. For the next seven years, almost annual musters revealed the population of the settlement, sometimes as a little more than 100, sometimes as a little less than 200 persons. In 1813 it was 242, in 1815 it had risen to 346, at the enumeration of 1817 it was 548.

In 1821 the population of Newcastle was 1,169, though its increase was not maintained, for in 1822 it was recorded as 1,062, and in 1823 it had fallen to 809. The first regular census, taken on the 30th June, 1828, recorded the population of Newcastle, inclusive of Hunter's River and Port Stephens, as 3,225. The census of 1833 gave the population of the town of Newcastle only as 536, a number less than that of 1822 by nearly 50 per cent.

In the early days of settlement, the movements of prisoners and troops, the arrangements of the Commissariat, the state of the stores, and the exigencies of a purely governmental form of colonization, account for increases and decreases in local populations, which would be inexplicable in a modern state of civilization and industrial development. Hence the habitancy of Newcastle, which comprised 1,169 persons in 1821, shrinking to 536 twelve years subsequently, need excite no surprise.

At the census of 1836 the population of Newcastle was recorded as 704, in 1841 as 1,377, and in 1846 as 1,471. At the next census, that of 1851, Newcastle's population fell to 1,340; but in 1856 it rose to 1,404. The census of 1861 was the last of the quinquennial enumerations, and the population of Newcastle, now a proclaimed borough, was recorded as 3,722. On the 23rd February, 1871, Waratah was incorporated as a municipal district; and two days subsequently Wickham was likewise incorporated.

At the census taken on the 2nd April following the population of the borough of Newcastle was 7,581; and of the municipal districts of Waratah and Wickham respectively 1,530 and 398, making together a total of 9,509.

During the interval between the census enumerations of 1871 and 1881, other suburbs of Newcastle became incorporated, namely, Lambton and Hamilton, proclaimed municipal districts respectively on the 24th June and the 11th December, 1871; and Wallsend and Plattsburg, proclaimed boroughs respectively on the 27th February, 1874, and the 27th December, 1876. At the census of 1881 the population of Newcastle was recorded as 8,986, that of Waratah as 1,714, that of Wickham as 2,399, that of Hamilton as 2,215; that of Lambton as 2,903, that of Plattsburg as 1898, and that of Wallsend as 2,156, making together a total for Newcastle and suburbs of 22,271.

Between the census enumerations of 1881 and 1891 five additional suburbs were incorporated, namely, the three municipal districts of Merewether (on the 20th August, 1885), Adamstown (on the 31st December, 1885), and Carrington (on the 30th March, 1887), and the two boroughs of New Lambton (on the 8th January, 1889) and Stockton (on the 13th October, 1889). The total population of Newcastle and suburbs at the census of 1891 was 49,910 persons; but the Census Report for 1891 quoted 50,705, having included the unincorporated coalfield township of West Wallsend (population 797) which has since been recorded separately. The table of country municipalities of New South Wales, previously given, shows the population of Newcastle and its individual suburbs at the three census enumerations of 1891, 1901, and 1911.

Of the remaining fifteen incorporated areas in the Division, four were boroughs and eleven municipal districts. The boroughs proclaimed were East Maitland (on the 3rd March, 1862), West Maitland (on the 13th November, 1863), Morpeth (on the 1st December, 1865), and Gosford (on the 10th November, 1886). The municipal districts were Singleton (on the 20th January, 1866), Muswellbrook (on the 13th April, 1870), Raymond Terrace (on the 7th July, 1884), Taree (on the 25th March, 1885), Port Macquarie (on the 14th March, 1887), Scone (on the 25th April, 1888), Wingham (on the 26th June, 1889), Murrurundi (on the 5th March, 1890), Greta (on the 2nd May, 1890), Dungog (on the 15th May, 1893), and Aberdeen (on the 18th December, 1894).

East and West Maitland were classed together in the census enumerations of 1833 and 1836, the joint population at these dates being respectively 1,556 and 1,163, which shows a loss of 393 inhabitants within three years. East Maitland was established as a Government township, and West Maitland grew up as a free settlement. As specifically named localities they appeared first in a census enumeration in 1836, being prior to that date classed with Newcastle, Hunter's River, and Port Stephens. In 1841 East and West Maitland were enumerated separately, the former with 1,022 and the latter with 1,746 inhabitants. In 1846 East Maitland was accredited with 910 inhabitants, and West Maitland with 2,409; in 1851 the former had 1,099 and the latter 3,131; in 1856 the figures were respectively 1,655 and 4,441; in 1861 they were 2,053 and 5,694; in 1871 they were 2,282 and 5,381; and in 1881 they were 2,302 and 5,703. In the earlier census enumerations, and prior to incorporation, the two Maitlands probably included country detached from the census area of the towns proper.

Singleton made its first appearance in a census enumeration in 1841 with 431 inhabitants; in 1846 the population had risen to 565, in 1851 to 630; in 1856 to 739, in 1861 to 1,000, in 1871 to 1,187, in 1881 to 1,951, and in 1891 to 2,595, from which last-mentioned number must be subtracted South Singleton, which had been proclaimed a municipal district on the 10th

December, 1884. The population of Singleton proper in 1891 was 1,793, and of South Singleton 802; but in the foregoing table the two populations are taken together, because the two municipalities were amalgamated on the 7th June, 1906.

Muswellbrook's first appearance in a census enumeration was in 1841 with 215 inhabitants, in 1846 they numbered 208, in 1851 the population was recorded as 204, in 1856 as 450, in 1861 as 625, in 1871 as 1,445 (subsequent to incorporation), and in 1881 as 1,074.

After the metropolitan county of Cumberland, the valleys of the Hunter and the Paterson Rivers were among the oldest settled districts of New South Wales; but the settlement was very scattered, hence there is a lack of continuous statistics in the early history of many places now well-known. Raymond Terrace, for instance, is accredited in the census of 1841 with 364 inhabitants, which fell to 263 in 1846; it was recorded in 1851 as 313; in 1856 it was 551, in 1861 and 1871 it was repeatedly stated as 535, and in 1881 it was 694.

Murrurundi, as a municipal district, includes Haydonton, formerly considered a distinct township, as it was situated on the opposite side of the River Page. Haydonton first appeared in a census enumeration in 1846 with a population of 117, which increased to 140 in 1851, and to 177 in 1856. In the census records of 1861 the population of Murrurundi is given as "including Haydonton," and the combined population was 579, in 1871 it was 568, and in 1881 it was 652. Haydonton appeared in the census of "Localities" for 1911 with a population of 133 persons.

Dungog's first recorded population was for the year 1846, when it was 124, in 1851 it was 286, in 1856 it was 356, in 1861 it was 458, in 1871 it was 396, and in 1881 it was 436.

Taree appeared first in the census of 1861 with a population of 118 persons, in 1871 it had increased to 339, and in 1881 to 488. Scone made its appearance in a census enumeration in 1841 with a population of 63 persons, in 1846 the population had increased to 117, in 1851 to 180, in 1856 to 244, in 1861 to 343, in 1871 to 574, and in 1881 to 600. In 1833 Port Macquarie (then styled simply Macquarie) was still a prison settlement, but its recorded population for that year, namely, 536 persons, were probably all free settlers and their families. The population of Port Macquarie in 1836 was 820, in 1841 it was 1,053, in 1846 it was 819 (showing a decrease of 234 persons), in 1851 it was 519 (showing a decrease of 300 persons on the figures of the preceding census), in 1856 it was 495 (showing a further decrease of 24 persons), in 1861 it was 514, in 1871 it was 691, and in 1881 it was 773.

Morpeth first appeared in a census enumeration in 1846 with a population of 635 persons, which in 1851 had increased to 734, in 1856 to 1,472, in 1871 it had decreased to 1,175, in 1871 (then a proclaimed borough) it was 1,236, and in 1881 it was 1,372. Wingham first appeared in a census enumeration in 1856 with 31 inhabitants, it was accredited in 1861 with a population of 50 persons, in 1871 with a population of 167 persons, and in 1881 with a population of 223 persons.

Greta, a place that gives its name to the famous coal-measure which was there first mined, made its appearance in a census enumeration in 1881 with a population of 570 persons. Aberdeen was first recorded in a census enumeration in 1851 with a population of 27 persons, in 1856 the population had increased to 71, in 1861 to 96, in 1871 to 185, and in 1881 decreased to 125. Gosford first appeared in a census enumeration in 1841 with 199 inhabitants, but in 1846 the population fell to 53, though in 1851 it numbered 211 persons, in 1856 it numbered 272, in 1861 it had decreased to 145, in 1871 it numbered 168, in 1881 it numbered 239, which was still 33 persons below that of 1856, a quarter of a century before.

The following table shows the population of "Localities" (not otherwise defined) throughout the Division, for the three census periods 1891, 1901, and 1911, which at any of these enumerations possessed 500 inhabitants (or upwards), together with the population at any other enumeration less than that of the 500 standard:—

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Kurri Kurri...	Northumberland	—	—	—	—	4,154
Cessnock ...	"	203	165	...	...	3,957
West Wallsend ...	"	...	...	795	1,695	2,723
Abermain ...	"	...	...	...	...	1,849
Weston ...	"	...	...	...	...	1,731
Minmi ...	"	...	...	2,357	2,595	1,708
Gloucester ...	Gloucester	76	79	...	...	1,472
Wyong ...	Northumberland	194	...	...	808	1,193
Aberdare ...	"	...	...	...	...	1,145
*Gosford ...	"	...	...	...	...	1,100
Stroud ...	Gloucester	259	307	...	...	1,098
Merriwa ...	Brisbane	437	...	...	565	1,019
Ournbah ...	Northumberland	285	354	...	...	964
Lorne ...	Durham	...	289	...	...	879
Gosforth ...	Northumberland	77	98	...	...	737
Clarence Town ...	Durham	491	371	...	...	730
Pelaw Main ...	Northumberland	...	...	...	...	730
Boolaroo ...	"	...	405	...	...	720
Branxton ...	"	490	...	...	586	713
Paterson ...	Durham	327	...	...	506	708
East Greta ...	Northumberland	...	404	...	...	690
Teralba ...	"	240	...	...	1,051	676
Holmesville...	"	...	416	...	...	672
Cardiff ...	"	114	...	...	598	667
Woy Woy ...	"	...	126	...	...	660
Dudley ...	"	...	...	...	630	659
Morisset ...	"	...	221	...	...	640
Bullahdelah...	Gloucester	299	...	...	559	631
Toronto ...	Northumberland	137	389	...	...	629
Miller's Forest ...	"	...	364	...	...	616
Lansdowne ...	Macquarie	257	121	...	...	613
Neath ...	Northumberland	...	...	...	...	602
Laurieton ...	Macquarie	99	492	...	...	587
Denman ...	Brisbane	268	260	...	...	527
Tuggerah ...	Northumberland	...	103	...	...	527
Forster ...	Gloucester	328	298	...	...	523
Charlestown ...	Northumberland	448	...	...	662	515
Gresford ...	Durham	...	267	537	...	512
						40,276
						under 500
Hexham ...	Northumberland	335	...	...	915	334
Pokolbin ...	"	329	...	...	655	354
Catherine Hill Bay..	"	354	...	...	651	476
†Aberdeen ...	Brisbane and Durham	106	...	...	...	...
†Dungog ...	Durham & Gloucester	...	...	878	...	...
Glen Mitchell ...	Northumberland	...	...	558	...	...
Hinton ...	"	...	427	524	...	411
Total, over 500 Inhabitants		...	...	5,649	12,476	40,276

* See Table of Municipalities for 1891 and 1901.

† Aberdeen incorporated the 18th December, 1894; Dungog incorporated the 15th May, 1893.

: Of the foregoing forty-five "Localities" (not otherwise defined) seven appear in a census enumeration for the first time in 1911, nine for the first time in 1901, thirteen for the first time in 1891, and sixteen at census enumerations ranging from 1841 to 1881. It will be necessary to give the population of the latter only for dates not included in the above table.

Cessnock's population in 1871 was stated as 89, and in 1881 as 130. Minmi, a rapidly developed coalfield, appeared for the first time in a census enumeration in 1881 with a population of 1,936. Stroud dates from 1856, as a recognised nucleus of settlement, with a population of 368, which increased in 1861 to 398, and in 1871 decreased to 289, but in 1881 its inhabitants numbered 344. Merriwa made its first appearance in a census enumeration in 1846 with 42 inhabitants; its population in 1851 numbered 123; in 1856 it had increased to 205, but decreased in 1861 to 170; it recovered in 1871 with 287 inhabitants, who numbered 342 in 1881.

Gosforth first appeared in a census enumeration with 111 inhabitants in 1881. Clarence Town made its first appearance in population statistics in 1846 with 93 inhabitants; its population in 1851 numbered 193, and increased in 1856 to 295, in 1861 to 301, in 1871 to 350, and in 1881 to 370. Branxton dates in the statistics of population from 1871 with 254 inhabitants, but its population in 1881 was recorded as only 87. Paterson made its first appearance in 1841 with a population of 90 persons, in 1846 it was 141, in 1851 it fell to 86, and in 1856 it rose to 309; in 1861 it had 241 inhabitants, in 1871 it had 288, and in 1881 it had 293.

Denman's first appearance in a census enumeration was in 1871 with 237 inhabitants, and the population in 1881 was recorded as 557 persons. Forster was first listed in census records in 1881 with a population of 183 persons; Charleston, in the same year, with a population of 268, and Gresford with a population of 346. Hexham's first appearance in a census enumeration was in 1856, with a population of 122 persons, it was not recorded in 1861, but it was in 1871 recorded as 143, a number which fell to 76 at the census of 1881. Hinton dates in the statistics of population from 1856, with 418 inhabitants; the number in 1861 was recorded as 351, in 1871 as 349, and in 1881 as 475. The population statistics relating to Dungog and Aberdeen have been given in the section treating of the municipalities of the Division.

In addition to the main fields there was a certain mining element in the counties of Durham and Gloucester. This mining element was due to coal-workings at the Dulwich, Kayuga, New Park, Muswellbrook, Rosedale, Rockcliff, and other northern collieries; but at the time of the last census it did not materially contribute to the apparent urban population of these counties. It was, however, quite otherwise in the case of the county of Northumberland, in which the non-urban character of many of the localities is obvious from the fact that places given as possessing considerable populations are presented for the first time in the results of a census enumeration. Kurri Kurri, Abermain, Aberdare, Pelaw Main, Holmesville, and Neath, for instance, are all fresh names; nevertheless, with but a few exceptions, presently to be more particularised, they represent only aggregations of large numbers of primary producers, following pursuits of a distinctly rural nature. Some of the municipalities, as already indicated, are more rural than urban, and a large proportion of the residents are engaged in coal-mining, small farming, and market-gardening; but the municipalities do not present difficulties of increase in the population from census to census as do the places classed as "Localities." It is on this account most particularly that the urban population of this Division cannot be definitely stated.

A majority of the "Localities" shown in the table are, it is true, merely coalfields, many of the operatives of which swell the population of adjoining

municipalities, as well as reside on the mining areas which, in any accurate sense, cannot be considered towns; but this postulate does not apply to all the "Localities" listed. Some few have, indeed, a right to be classed as urban, with peculiar qualifications for the status. Other "Localities," such as Miller's Forest, Gosforth, and Lansdowne, are nothing more important than post-offices, several having no location on the map. Holmesville, the name of which appears in the records of two census enumerations, has not even a post-office; but it is shown on the map of the Hunter District Water and Sewerage Board as a place in the vicinity of West Wallsend. Some "Localities" represent rural districts with a township nucleus. Such a locality is Wyong, which includes Wyong Creek, a scattered settlement of small farmers, timber-getters, saw-millers, and fishermen. Some "Localities" are simply wayside railway stopping-places; such, for instance, are Ourimbah, Woy Woy, and Morisset; and the number of residents with which they are accredited constitute the population of the rural districts that they tap. During the period at which the census was taken the North Coast Railway was in process of construction. This fact accounts for the large industrial population of several counties in which railway camps were formed for short periods, at the longest for a few months only.

Kurri Kurri, the first name in the foregoing list, is not merely a coalfield. It is an urban centre, but of a peculiar character, inasmuch as all its urban activities subserve exclusively the demands of primary production. It is a Government township, and around it lie the coalfields and collieries of Heddon Greta, Pelaw Main, Richmond Main, Stanford Merthyr, Weston, and Abermain; it is also situated in a district of prosperous farms, and is connected by a private railway line with West Maitland. Kurri Kurri has the shops of tradespeople, general stores, hotels, a newspaper, a monthly Court of Petty Sessions, a police-station, a post and telegraph office, a public school and a school of arts, banks, clubs and societies, public halls, colliery headquarters, resident doctors, and the general provisions for the maintenance of health; but its urban significance is discounted by the fact that it is part of the shire of Tarro, which has its headquarters in East Maitland. It is really the administrative centre of a coalfields area in a very exclusive sense.

The coalfields and collieries around it, Weston, Aberdare, Minmi, Neath, etc., have, however, no claims to urban distinction. An hotel, a general store, one or two necessary shops, particularly a blacksmith's forge, practically summarise all that can be designated civic services and considered as pretensions to be classed as townships. Cessnock, the headquarters of the shire of the same name, is the centre of a dairy-farming and wine-growing, as well as a coal-producing district, and it has many of the adjuncts and services of civic life. Its growth has been rapid, and, like Kurri Kurri, it is the centre of subsidiary areas having no real urban claims. West Wallsend, an old established coalfield, having the usual shops and general stores, is situated in the shire of Lake Macquarie, and is the headquarters of the West Wallsend and Seaham colliery groups; but, notwithstanding its comparatively long period of importance, it is far behind Kurri Kurri as a coalfields' administrative centre.

Stroud, the centre of the shire of the same name, and called after a town in the English county of Gloucester, has expanded considerably under the influence of railway development, and has some historic status as the one-time headquarters of the Australian Agricultural Association. Gloucester, also a shire-centre of similar designation, has enjoyed an apparent expansion which is provocative of close inquiry. Three hotels, a butter factory, a newspaper that circulates in an extensive district, a few shops and general stores, do not satisfactorily account for the little town's sudden growth. Both Stroud and Gloucester are, however, clearing-dépôts for dis-

districts in which dairy and mixed farming are the principal industries, timber-getting rivalling maize-growing in the former, and contesting against gold-mining and coal-mining in the latter, while both being shire-centres, they readily become accredited with populations representative of districts rather than of towns. The apparent extraordinary accretion of population in these and similar shire-centres in the Division can be appreciated fully from the following comparison:—

Locality.		Population.		
		1891.	1901.	1911.
Cessnock	... ..	203	165	3,957
Muswellbrook	... ..	...	...	2,403
"	(Municipality and Shire-centre)	1,298	1,710	1,861
Gloucester	... ..	76	79	1,472
Stroud	... ..	259	307	1,098
Merriwa...	... ..	487	565	1,091

Merriwa, the last mentioned in the foregoing comparison, is the shire-centre of a district with great potentialities for wheat production, and is already noted for its wool-growing, stock-fattening, and timber-getting enterprises. A number of so-called townships and villages owe all their urban population to the expansion of the timber-trade of the North Coast. Of such are places like Ourimbah, Laurieton, Clarence Town (noted for its considerable export of ironbark), and Morisset; and Forster, Denman, Toronto, and Bulladelah, to some extent. Some localities are holiday resorts and fishing villages, though not wholly so, such as Woy Woy, Toronto, Tuggerah, and Forster. Boolaroo, or Cockle Creek, besides possessing timber-yards and saw-mills, is the site of the Sulphide Smelting Works. Bulladelah, though the centre of a district both agricultural and timber-growing, and with dairy farms, a butter factory, and saw-mills, possesses the only known alunite deposit in Australia in the mountain situated to the rear of the township.

Gosford, at the head of Brisbane Water, was once the terminus of navigation for a district trade with Sydney and Newcastle. Thirty years ago it was created a municipality, but it has suffered from the railway expansion which linked-up the metropolis and the Hunter River District, and its once flourishing timber-trade has drifted to main-route townships like Ourimbah and Wyong.

The following table shows the constitution of the Division for the three census periods of 1891, 1901, and 1911, according to its municipal and non-municipal urban and its rural elements in each county:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Northumberland	Municipal ...	63,698	...	66,714	...	68,615	...
	Non-municipal	4,234	...	10,846	...	30,977	...
	Total ...	67,932	18,686	77,560	19,859	99,592	22,801
Gloucester	Municipal ...	899	...	823	...	911	...
	Non-municipal	—	...	559	...	4,603	...
	Total ...	899	12,593	1,382	13,524	5,514	14,045
Macquarie	Municipal ...	2,171	...	2,587	...	3,294	...
	Non-municipal	—	...	...	...	1,200	...
	Total ...	2,171	9,802	2,587	12,566	4,494	14,160
Durham	Municipal ...	3,893	...	5,664	...	6,380	...
	Non-municipal	537	...	506	...	1,950	...
	Total ...	4,430	10,846	6,170	11,515	8,330	10,182
Brisbane...	Municipal ...	2,130	...	3,129	...	3,582	...
	Non-municipal	878	...	565	...	1,546	...
	Total ...	3,008	4,236	3,694	4,724	5,128	4,858
Hunter	...	...	1,963	—	1,791	—	2,262
Hawes	...	...	248	—	322	—	549
Grand Total ...		78,440	58,374	91,393	64,301	123,058	68,857

The Division offers some anomalies of an interesting character, for, while the county of Northumberland would appear as highly urban, the counties of Hunter and Hawes are entirely lacking in villages and hamlets of even the conceded standard, and, indeed, have very small rural populations. The counties of Gloucester and Macquarie are satisfactory in respect of the urban and rural constitution of their inhabitants; the county of Durham considerably less so; and the county of Brisbane shows an urban population in excess of its rural. This fact is curious, as Brisbane and Durham, at the time when the 1911 census was enumerated, were mainly pastoral counties, though agriculture was substantially represented. Gloucester was almost equally pastoral and agricultural, with the former pursuit in the lead as regards the numerical force of the persons engaged. The county of Macquarie showed an inverted order, with agriculture in the lead. Both Durham and Gloucester had a mining representation in the population returns, which, at the census of 1911, was distributed almost equally between the two counties, and amounted to 433, including one female.

Of the seven counties constituting the Division, two are practically negligible—Hunter maintaining a population of 2,262, and Hawes of only 549. It is interesting to note that the latter county, with an area of 1,591 square miles, had a density of 0·35 persons per square mile; and 277 breadwinners, of which number 230 were primary producers, 15 belonged to the industrial class, 2 to the class of transport and communication, 12 to the professional, and 14 (all females) to the domestic class. Hunter was practically a pastoral and an agricultural county, contributing 675 males and 47 females to those orders of primary producers out of a total of 935 breadwinners.

The following statement shows, for the three census periods 1891, 1901, and 1911, the relative progress of the urban population in municipal and non-municipal groups throughout the Division :—

	1891.	1901.	1911.
Municipalities	72,791	78,917	82,782
Unincorporated Towns and Villages (1891 and 1901) and "Localities," not otherwise defined (1911), of 500 Inhabitants and upwards	5,649	12,476	40,276
Total, Quasi-urban...	78,440	91,393	123,058
Remainder of Division (Rural) ...	58,374	64,301	68,857
... Total, Division ...	136,814	155,694	191,915

The foregoing figures disclose an extraordinary apparent increase in the population of places (not otherwise defined), classified as "Localities"—an increase which cannot be accepted as representative of genuine urban growth without further examination.

For the Division of the Hunter and the Manning Rivers the overstatement of municipal habitation, as shown in the census table for 1911 of the population of "Localities," amounted to 7 per cent. more than the number of persons living within municipalities of defined areas, and further evidences the looseness with which persons state their places of domicile, and the tendency to ascribe personal habitation to a well-known centre which may have only a pivotal relationship to the place of actual habitation.

An examination of the population of the Division in its relation to the occupations of the people discounts largely its presumptive claims to an excessively urban over a rural constitution. At the time of the last census the total population of the Division comprised in the seven counties which constitute roughly the basin of the Hunter and the Manning Rivers was 191,915; to which total the breadwinning classes contributed 76,744, or 65,935 males and 10,809 females, and the class of dependents on natural guardians a total of 113,666, or as 1·48 to 1. The total number of persons classed as primary producers was 31,346, inclusive of 629 females. Throughout the Division there were 4,679 females engaged in domestic service and attendance, or a proportion of 6·1 per cent. of the total number of breadwinners of both sexes. On the basis of distribution previously explained, the number of dependents domiciled with the primary producers of the Division was 46,392, and of domestic attendants 1,912, making together a total of 79,650 persons, though this is an estimate which need not be insisted upon, because the sources of investigation are necessarily limited. Nevertheless, the Division as a whole was devoted entirely to the exploitation of its native resources, and its chief county, Northumberland, predominantly to the primary pursuit of mining. Nevertheless, Northumberland, though predominantly a coal-mining and shipping county, engaged in winning the best coal in Australasia and exporting it to countries overseas, had a considerable agricultural and a respectable pastoral representation of the population engaged in primary production; while other counties divided agricultural and pastoral pursuits with the secondary industry of timber-milling, which in its incidental conditions is far more rural than urban.

Through an indefiniteness in defining occupation, the census classification does not agree consistently with the police returns; thus the number of females engaged in agriculture in the Division of the Hunter and the Manning was, according to the census classification, 146; whereas the police returns for the year ended 31st March, 1911, showed 117, or a difference of 29. The number of females engaged in pastoral pursuits, according to the census enumeration, was 479; and by the police returns, 4,063 females were engaged in dairying; hence, no fewer than 3,555 females, included in the census classification as dependents on natural guardians, were breadwinners, partially engaged in agriculture and dairying, and partially in the discharge of domestic duties.

The constitution of the population of the Division according to the occupations of the people at the census of 1911 is shown in the following table:—

Sex.	Bread-winners	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	65,935	8,104	8,304	11,809	2,500	30,717	16,305	7,055	7,056	2,873	1,457	472	35,218
Females ..	10,809	146	479	1	3	629	2,181	1,333	146	1,624	4,679	217	10,180
Total ..	76,744	8,250	8,783	11,810	2,503	31,346	18,486	8,388	7,202	4,497	6,136	689	45,398

In the county of Northumberland alone no fewer than 2,383 males were engaged on the railways in the work of transport and communication. Throughout the Division the number engaged in traffic on the roads was

2,033, and 1,736 were engaged in traffic on seas and rivers. The number engaged as workers in the preparation of food, etc., which would necessarily include the operatives in butter factories and similar establishments, was throughout the Division 1,716; and 5,900 were engaged in various descriptions of building and construction, inclusive of railway construction, which at the time of taking the census of 1911 engaged the energies of many persons in the work of clearing and laying the track of the North Coast line. All these persons so engaged would, to a very modified degree, contribute to the urban elements of the population at the period under review; while the actual number of primary producers as compared with the other occupations of the bread-winners, and inclusive of 689 persons of the class of independents was as follows:—

Class—Primary Producers	...	...	...	...	...	31,346
„ Industrial	...	...	...	...	...	18,486
„ Commercial	...	...	...	...	...	8,388
„ Transport and Communication...	...	...	...	...	...	7,202
„ Domestic	...	...	...	...	...	6,136
„ Professional	...	...	...	...	...	4,497
„ Independents	...	...	...	...	...	689
						<hr/> 76,744

Generally speaking, the Division differs in its constitution as regards the occupations of the people very little from that of the State; but there is one notable exception, namely, the county of Northumberland. Here, and especially in the region devoted to the winning of coal, there is an interfusion and interdependence of all classes of breadwinners which has no absolute parallel in any other part of Australia, and which reproduces in an orderly system the conditions of life that prevailed in the early days of the gold fever. Primary producers, secondary workers, persons engaged in transport and communication, and persons engaged in commercial pursuits, are all found ministering in united service to a great interstate and overseas trade in the staple product of the district. Save in the metropolitan county, in no other in the State is there so dense a population as in the county of Northumberland. There are few appreciable boundaries between localities, and for miles beyond Newcastle the country presents an aspect of general habitancy. In fact, the populousness of the country in the mining region, and throughout the valley of the Hunter River, is not specially localised, but continuous—a characteristic of density derived from the predominant calling.

The following statement shows the constitution of the population of the county of Northumberland with respect to the occupations of the people at the census of 1911:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	41,191	3,320	1,416	11,278	980	16,994	10,582	5,067	5,328	1,922	973	325	24,197
Females ..	7,381	44	55	..	2	101	1,742	1,061	65	1,149	3,093	165	7,280
Total ..	48,572	3,364	1,471	11,278	982	17,095	12,324	6,128	5,393	3,071	4,071	490	31,477

Of the "Other" primary producers 660 males were engaged in forestry, 177 in fisheries, 109 in water conservation and supply, and 34 in hunting and trapping. In connection with the transport of the county's staple production it is interesting to note that, in addition to 2,383 persons engaged in railway traffic, 1,265 were engaged in traffic on roads, and 1,356 on seas and rivers. The workers in food, etc., numbered 1,190; and those engaged in construction, including the construction of railways, numbered 3,069. Newcastle is the second seaport of New South Wales, and the third of the Commonwealth; but it is not possible to deduce from the census table of occupations the number of persons engaged in the many callings associated with the shipping operations of the city. Inclusive of 490 persons classed as independents, the constitution of the county of Northumberland in respect of the occupations of the people was as follows:—

Class—Primary Producers	...	...	...	...	17,095
„ Industrial	...	...	...	...	12,324
„ Commercial	...	...	...	...	6,128
„ Transport and Communication	...	...	...	...	5,393
„ Domestic	...	...	...	...	4,017
„ Professional	...	...	...	...	3,071
„ Independents	...	...	...	...	490
Total					48,572

The Division contains nineteen shires, or parts of shires, for purposes of Local Government, which, with their respective headquarters of administration, are given herewith:—

Shire.	Headquarters.	Shire.	Headquarters.
Macleay (southern part)	West Kempsey	Muswellbrook	Muswellbrook
Apsley (eastern part)	Walcha	Port Stephens	Raymond Terrace
Hastings	Wauchope	Bolwarra	Largs
Manning	Taree	Tarro	East Maitland
Gloucester	Gloucester	Cessnock	Cessnock
Warrah (eastern part)	Murrurundi	Lake Macquarie	Spee's Point
Woolooma	Scone	Erina	Gosford
Stroud	Stroud	Merriwa (eastern part)	Merriwa
Wallerobba	Dungog	Colo (north-eastern corner)	Colo
Patrick Plains	Singleton		

Six of the foregoing shires have headquarters in townships of similar designations, namely, Gloucester, Stroud, Muswellbrook, Cessnock, Merriwa, and Colo. Muswellbrook (headquarters of the shire of Muswellbrook) is itself a municipal district. Walcha (the headquarters of the shire of Apsley), Taree (the headquarters of the shire of Manning), Scone (the headquarters of the shire of Woolooma), Dungog (the headquarters of the shire of Wallarobba), Singleton (the headquarters of the shire of Patrick Plains), Raymond Terrace (the headquarters of the shire of Port Stephens), and East Maitland (the headquarters of the shire of Tarro) are all municipalities. Gosford (the headquarters of Erina Shire) is an ex-municipality.

THE METROPOLITAN DIVISION.

The county of Cumberland is, for purposes of comparison, classed as the Metropolitan Division; though it is in many parts still essentially rural, and it contains no fewer than 17,971 primary producers, 327 of which number are females.

It is bounded on the north by the Hawkesbury River and Broken Bay; on the south by the Cataract River, on the west by the Hawkesbury and Nepean Rivers, and on the east by the South Pacific Ocean, from Cape Barranjoey to a headland north of Bulli.

The following table shows the area, population and density of the county of Cumberland at the three census periods of 1891, 1901, and 1911:—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Cumberland ...	1,673	447,014	563,383	720,706	267·20	336·73	430·77

During the twenty years under review the Metropolitan Division gained 273,692 persons, or 116,369 for the first and 157,323 for the second decade.

In the following statement, which shows the population of the Division at the three census periods under review, the shire of Ku-ring-gai, with a population of 9,458, is included in the figures given for 1911 with the city and suburbs of Sydney; but the population of the same area for 1901 is to be found in the subsequent table of unincorporated towns and villages, and of "Localities," having a population of 500 and upwards at any one of the three census periods. The population of the individual municipalities has been given already in another part of this chapter.

	1891.	1901.	1911.
Sydney and Suburbs	383,283	481,830	629,503
Extra-Metropolitan Municipalities in the County of Cumberland	38,781	50,664	60,815
Total, Municipal Population	422,064	532,494	690,318
Unincorporated Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	6,122	12,505	16,872
Total, Quasi-urban	428,186	544,999	706,990
Remainder of Division (Rural) ...	18,828	18,384	13,716
Total, Division	447,014	563,383	720,706

It is noteworthy that Ku-ring-gai Shire, which is now regarded as a part of the metropolitan area, has a density of 262·72 persons to the square mile, or 0·41 persons per acre. It is, therefore, not contended that any given place is urban simply because it is incorporated; for all the existing municipalities were created under the Act of 1867; and the majority of them were incorporated as municipal districts. Out of a total of 194 municipalities which were proclaimed prior to the census enumeration of 1911, only seventy-eight were created as boroughs, the essentially rural character of 116 being affirmed in the terms of their incorporation as municipal districts.

The City of Sydney was incorporated under a Special Act of the Governor in Council in 1842, and was authorised by proclamation in the *Government Gazette*. In the following year Campbelltown, Appin, Camden, Narellan, and Picton were incorporated as one district council, which was shortly afterwards subdivided into three, by the erection of Campbelltown and Appin into separate councils. Campbelltown, Camden, and Picton are all municipalities at the present time ; but Appin now forms part of Wollondilly Shire and Narellan part of the shire of Nepean. Their respective populations at the three census periods were—

	1891.	1901.	1911.
Appin	104	71	210
Narellan	257	417	366

In 1844 the number of county district councils had increased to eight ; and these, with the Municipal Council of Sydney, and the Road Trusts which were subsequently established, constituted the whole of the local government system prior to 1858. During the year just mentioned, an Act was passed which dissolved the district councils ; but placed the areas they had formerly controlled under municipal bodies. In accordance with the provisions of this Act, thirty-five districts were incorporated ; and these, though many of the boundaries have been re-aligned, still exist with a few exceptions, those, namely, of Cook (which in 1870 was joined to Camperdown), and East St. Leonards and Victoria (which, in 1890, were united to St. Leonards to form the municipality of North Sydney). In 1911 the municipality of Camperdown itself became a ward of the City of Sydney.

At the time of the census of 1861 twenty-three towns and districts had availed themselves of the provisions of the Act, of which Balmain, The Glebe, Hunter's Hill, Paddington, Randwick, Redfern, St. Leonards, East St. Leonards, Waterloo, Waverley, and Woollahra, were in the county of Cumberland. The Act of 1858 was repealed, however, by the Municipalities Act of 1867, under the provisions of which the existing municipalities were continued as boroughs, and all future incorporations of area were to be classified either as boroughs or municipal districts. Boroughs might include any city, town, or suburb of the metropolis, or any country district with a population exceeding 1,000 persons and an area of not less than 9 square miles. Municipal districts might include any area not containing a borough, with a population of not less than 500 persons and an area of not more than 50 square miles.

At the census of 1871 twenty-five new municipalities appeared in the records of the enumeration, of which Alexandria, Camperdown, Darlington, Marrickville, Newtown, North Willoughby, Parramatta, Ryde, St. Peter's, Victoria, and West Botany, were in the county of Cumberland. The changes which have taken place in the municipal area of the county of Cumberland have been already detailed.

Of the extra-metropolitan municipalities in the county of Cumberland, four only (Parramatta, Auburn, Granville, and Lidcombe) had population densities of more than one person per acre, the figures being, in the orders given, 5·73, 2·07, 1·76, and 1·01. One municipality had a population density of 0·84 ; another of 0·51, two municipalities of 0·42, one of 0·23, one of 0·16, three of 0·14, one of 0·11, one of 0·09, two of 0·03, and one of 0·02, or one person in the whole population of the municipality to every 50 acres of superficial area.

The following statement shows the population of "Localities" (not otherwise defined) of 500 inhabitants and upwards in the county of Cumberland at the three census periods of 1891, 1901, and 1911 :—

Town, Village, or Locality.	Population.				
	Under 500.		500 and upwards.		
	1891.	1901.	1891.	1901.	1911.
Hornsby	423	...	...	1,818	2,213
Helensburgh	—	...	—	1,611	1,838
Pymble	—	...	—	941	*1,353
Wahroonga	—	...	—	784	*1,348
Turramurra	—	...	—	788	*1,306
Gordon	—	...	—	653	*1,298
Lindfield	—	498	—	...	*1,285
Sutherland, with Como	492	...	...	602	1,222
Roseville	—	356	—	...	*1,057
Thirroul (late Robinsville)	422	409	...	...	1,025
Carlingford ... ..	...	...	680	524	1,013
Epping	—	376	—	...	1,001
Riverstone	380	...	...	992	981
Beecroft	205	470	...	...	953
Normanhurst	—	—	—	—	953
Pennant Hills	303	...	...	693	899
Coledale	—	—	—	—	794
Baulkham Hills	377	498	...	...	743
Scarborough	—	—	—	—	703
Cronulla	—	—	—	—	636
Clifton	452	...	...	594	571
Castle Hill ... ..	...	415	537	...	568
Forrester	—	80	—	...	559
St. Ives	—	480	—	...	*519
*Less Townships in Ku-ring-gai Shire					21,838
					8,166
					16,672
					Under 500.
Auburn (Municipality, 1892) ... ..	...	...	2,026	...	...
Dural	295	...	...	864	443
Newington ... ..	...	...	953	592	—
Seven Hills	454	...	...	527	459
Blacktown ... ..	...	...	506	522	449
Heathcote ... ..	...	94	893	...	73
Rooty Hill ... ..	...	284	527	...	—
Prospect (unincorporated portion)	—	466	—	...	—
Manly Cove	356	—	—	—	—
Ingleburn (Municipality, 1896)	217	...	...	...	...
Bankstown (Municipality, 1895)	108	...	...	...	...
Canley Vale (Municipality, with Cabramatta, 1892)	105	...	...	...	...
Manly Vale	—	—	—	—	104
Total, over 500 Inhabitants			6,122	12,505	16,672

In the foregoing statement are included in the figures for 1911 (for purposes of completeness and comparison) the populations of Pymble, Wahroonga, Turramurra, Gordon, Lindfield, Roseville, and St. Ives, residential suburbs of Sydney, now included in the Ku-ring-gai Shire, and the postal centre of Baulkham Hills, which is really a rural district. Baulkham Hills is also a shire, with headquarters at Castle Hill. Pennant Hills is a railway centre of a rural district in the shire of Hornsby, and the population of the latter, under the designation of a "Locality," has probably been inflated at the expense of the shire.

Helensburgh, Coledale, Scarborough, and Clifton are coal-mining "Localities"; the first-named is a township with a number of the services of civic life, including hotels, the shops of tradespeople, general stores, two public halls, and a Government savings bank; the other three are small but

prosperous villages of nearly equal importance in the Southern Coalfields District. Coledale and Scarborough are new names in the census records of the State, Clifton first appeared in the census report of 1881 with a population of 385, and Helensburgh in that of 1901 with a population of 1,611. It has taken Clifton thirty years to increase its population by 186 persons, and between the census periods of 1901 and 1911 it actually declined. Helensburgh, with a first census appearance representative of a considerable industrial population, required a decade to achieve an increase of 227 persons. These phenomena of figures relating to population are characteristic of colliery workings, which absorb a full complement of workers from their initiation, a complement that more frequently declines than augments.

Sutherland and Como have long been associated in census returns, and in 1891 Como was accorded the first position. They are three miles apart, but both are now included in the shire of Sutherland, which is predominately rural, with bee and poultry farms, market and flower gardens, a few quarries, and other sources of primary production. Thirroul and Cronulla are sea-side resorts and watering-places which maintain populations whose business is to minister to the needs of tourists, but the latter place is becoming increasingly residential. Epping (late Carlingford East) is surrounded by orangeries, orchards, and gardens, but, like most of the "Localities" in the county of Cumberland which are connected with the metropolis by rail, it is becoming more and more residentially suburban. Riverstone is best known for its meat-works, but its population remained stationary for the entire interval between the census enumerations of 1901 and 1911. Beecroft and Normanhurst, residential suburbs on the railway line, have their intermingling of petty culture, fruit and flower growing, poultry-farming, bee-keeping, and market-gardening. Castle Hill, the headquarters of the shire of Baulkham Hills, is surrounded by orchards and orangeries, and the cultivation of citrus fruits is the staple industry of the district. Forrester, a village eastward of the Hawkesbury River, is a purely rural district, which possesses a post office, and the main pursuits of which are the growing of vegetables and the raising of poultry for the market. Dural, a once flourishing little settlement in the shire of Hornsby had, with North Dural, in 1901, a population of 864; but it has considerably declined since that census date, and is now listed with 443 inhabitants, who are mostly engaged in fruit-growing and other forms of small-farming culture.

Newington, given in two census enumerations as a township, is situated on a bend of the Parramatta River, and is really included in the municipality of Lidcombe (late Rookwood). It is the site of an asylum for old and infirm people, and its population was composed entirely of inmates, attendants, doctors, and nurses. Both Seven Hills and Blacktown are shown as declining centres, and both are within Blacktown Shire, the chief industry of the second of the two townships being the saw-milling establishment of a local timber company. Rooty Hill, an old time Central Cumberland place-name, is shown as a declining township in 1901, and it disappears altogether from the census lists of 1911. Nevertheless, it still exists as a township in the shire of Blacktown. It is 25 miles west from Sydney by railway, and it is a station on the Great Western Trunk line, with post, telephone, telegraph, and money-order office, postal delivery, an hotel, several saw-mills, wine-cellars, general stores, and the shops of tradespeople.

Heathcote appears in the census enumeration of 1891 with a population of 893, in that of 1901 with a population of 94, and in that of 1911 with a population of 73. It is a railway-station on the South Coast line, distant 20 miles from Sydney, in the shire of Sutherland, and it has postal

A reference to the foregoing table shows that the industry of agriculture was represented by 8,832 persons, including 110 females, but in a county with an area of 1,673 square miles, or 1,070,720 acres, the holdings would necessarily be limited; for even if these 8,832 primary producers shared equally in the soil of the county, to the exclusion of everybody else, the area occupied by each primary producer would be less than 122 acres.

Some extra-metropolitan municipalities in the county of Cumberland show, however, certain interesting particulars with respect to density of population; and outside the metropolitan area, represented by Sydney and its suburbs the average number of acres in the occupation of each resident of particular municipalities containing less than one person per acre was as follows:—

Persons living in the Municipality.	Average number of acres per person.	Persons living in the Municipality.	Average number of acres per person.
520	over 58	720	over 9
451	nearly 42	5,323	„ 7
1,825	over 35	2,226	nearly 7
379	„ 27	1,181	over 6
1,794	„ 21	1,797	„ 4
3,938	nearly 11	4,818	„ 2

“Other” primary producers included 1,036 persons (two only of whom were females) who were engaged in the work of water conservation and supply; 97 (95 males and 2 females) in forestry; 470 (inclusive of one female) in fisheries; and 34 males in trapping and hunting—making together a total of 1,637 persons. Primary producers engaged in mining and quarrying numbered 3,747, including 13 females. Figures relating to persons engaged in the preparation of food, and in building and construction, have little analytical value in their application to the gross population of the Metropolitan Division, which bears a relationship to the whole State of that of a clearing-house. The transporting and carrying section inhabiting the county was, as might have been expected under metropolitan conditions, large. Those engaged in railway traffic numbered 7,069; in traffic on roads, 11,518; on seas and rivers, 10,793; and in postal, telegraph, and telephone service, 4,259.

At the census enumeration of 1911, the total population of the Division comprised in the metropolitan county was 720,706, to which total the bread-winning classes contributed 326,564, or 243,395 males and 83,169 females; and the class of dependents on natural guardians, a total of 388,327. The total number of persons classed as primary producers was 17,971, inclusive of 327 females—a total number 876 in excess of that of the same class in the county of Northumberland, the headquarters of Australia's coal industry. Throughout the Metropolitan Division there were 27,457 females engaged in domestic service and attendance, or a proportion of 8·4 per cent. of the total number of breadwinners of both sexes. On the basis of distribution already detailed, the number of dependents domiciled with primary producers was 21,385 (or as 1·19 to one), and of females engaged in domestic service and attendance, 1,509, making together a total of 40,865.

Of the “Localities” (not otherwise defined) shown in the table, it is impossible to determine how far they represent aggregations of primary producers, or temporary workers of the industrial class. There is little doubt that the population of Heathcote, at the time of the 1891 census, consisted almost entirely of temporary workers of the industrial class; and it is obvious that only a small proportion of the population of a centre like Helensburgh could be urban in the correct sense of the term, and that the urban constituents in localities like Scarborough, Coledale, and Clifton are negligible.

Moreover a number of rural districts in the county of Cumberland have undoubtedly been deprived of the significance of their habitancy, to the advantage of the apparent populousness of a place-name, the only population of which was comprised in the inmates of a post-office, a wayside hostelry, and a general store. The duplication of the names of postal centres in those of the shires in which they are situated is in this, as in other Divisions of the State, a fruitful source of over-statement and inflation of the population of "Localities"; but this was lowest in the county of Cumberland, namely, 1.3 per cent., as against 30.0 in the Division of the Central Plain, the latter being the greatest excess in the whole State of the overstatement of municipal habitancy, as shown in the table of the population of "Localities," of persons living within municipalities of defined areas.

As regards the county of Cumberland, this aspect of the enumeration of the people reflects the general result but little; and the incidence of occupation is a far greater consideration with respect to the absolute urbanisation of even the Metropolitan Division. In this connection it is interesting to note that the census enumeration showed 110 females as engaged in agriculture and 199 in pastoral pursuits; and the police returns recorded, respectively, 371 and 475 females, or a total of 846; hence 261 females partially engaged in agriculture, and 276 partially engaged in pastoral pursuits, or a total of 537 partially engaged in primary production and partially in the discharge of domestic duties, were included in the class of dependents on actual guardians in the census classification of 1911. The constitution of the county of Cumberland in respect of the occupations of the people at the census period 1911, was as follows:—

Class —	Industrial ...	...	...	...	...	132,360
„	Commercial ..	...	...	...	...	68,693
„	Domestic ...	...	...	...	...	37,615
„	Transport and Communication	...	...	...	...	33,767
„	Professional ...	...	...	...	...	31,455
„	Primary Producers	...	...	...	...	17,971
„	Independents	...	...	...	...	4,703
Total ...						326,564

The Metropolitan, as might have been expected, is the only Division in which primary production occupies the last place on the list; nevertheless, primary producers are a more important constituent of the metropolitan population than cursorily that class appears to be. In all the other Coastal Divisions the primary producers head the list of the occupations of the breadwinning people; and the succession of the industrial and commercial is identical throughout, as occupying the second and third places in the order named. A variation, however, occurs in the fourth, fifth, and sixth classes. In the Division of the North Coast, transport and communication is sixth on the list, and it is similarly placed with regard to the South Coast. This is a result of the narrowness of the hinterland limiting the length of roads, of the little development in railway communication, and of the situation of the coastal towns on the river estuaries—thus facilitating, and even rendering imperative, sea-intercourse with the metropolis and a general system of water transport. In the Metropolitan and Hunter-Manning Divisions the transport and communication class stands fourth in order. In the South Coast Division the professional class stands fourth in order; in the Metropolitan and North Coast Divisions it is fifth; in the Hunter-Manning Division sixth. The domestic class has third place in the Metropolitan Division, fourth in that of the North Coast, fifth in those of the Hunter-Manning and the South Coast.

The dominant occupation of the people of any locality, the one of two which decides its character as urban or rural, is either primary

production or industrial. The dominant occupation of Sydney (the city) is industrial; and in this sense its position as an urban centre has no parallel in the State. The industrial character of any given district is a great factor in its population density, approached only in primary production by the aggregation of units engaged in concentrated forms of mineral production, as, for instance, coal-mining. As an industrial no less than a metropolitan district, the county of Cumberland, with a population density of 430.77 per square mile, or 0.67 persons to the acre, is more urban than the metropolitan county of Bourke, in which Melbourne, the capital of the State of Victoria is situated; and is the most urban of such divisions in the entire Commonwealth.

The county of Cumberland is one of "Mitchell's Nineteen Counties." Five of the nineteen, namely, Brisbane, Durham, Gloucester, Hunter, and Northumberland, have been discussed already as constituent parts of the Division of the Hunter and the Manning Rivers. Soon after the arrival in New South Wales of Major-General Sir Thomas Mitchell, he began, in his new capacity as Surveyor-General of the Colony, to survey and chart the settled districts of the eastern territory. He had already achieved fame as a soldier in the wars against Napoleon, and distinction as a cartographer of the battlefields of the Spanish Peninsula. He delimited the group known as "Mitchell's Nineteen Counties" in 1827-29, and his map was published to the world in 1831. In addition to the six already mentioned, the full list included:—Camden and St. Vincent, in the South Coast Division; Bathurst, Bligh, Cook, Georgiana, Phillip, Roxburgh, Wellington, and Westmoreland, in the Division of the Central Tableland; and Argyle, in the Division of the Southern Tableland. These counties commemorated in their nomenclature George the Fourth, Captain Cook, the first four and the sixth of the Colony's Governors, the Duke of Wellington, three Secretaries of State for War (who by virtue of their Cabinet rank also administered the colonies under the designation of the Department of Plantations), and Lord Jervis, the victor of the battle off Cape St. Vincent; and seven duplicated the names of existing British counties, thus introducing a highly reprehensible practice.

The county of Macquarie, in the Hunter-Manning Division, was added later, and the group came to be known as the "Twenty Old Counties," and marked the older settled portion of the Colony. Auckland, so named in honour of Lord Auckland, better known as the Hon. William Eden, was a fresh addition in 1846; but this new county appeared only capriciously in statistics of population for a number of years. The "Twenty Old Counties" long constituted the assured and civilised part of the Colony, the official territory in the strict sense, and everything outside was more or less vaguely classed as "beyond the boundaries of location." It is matter for regret that the areas surveyed and delimited as counties, 141 in number, and subdividing the State superficially throughout its entire length and breadth, are not more generally employed as administrative units; as, for purposes of comparison, they are unrivalled, preserving, as they do, continuousness of configuration and relativity of contents.

The Metropolitan Division of the county of Cumberland contains, for purposes of Local Government, eight shires, or part of shires, which, with their respective headquarters of administration, are as follow:—

Shire.	Headquarters.	Shire.	Headquarters.
Warringah ...	Brookvale	Blacktown ...	Blacktown
Ku-ring-gai ...	Gordon	Nepean ...	Bringelly
Hornsby ..	Hornsby	Sutherland ...	Sutherland
Baulkham Hills ...	Castle Hill	Bulli ...	Bulli

The shires of Hornsby, Blacktown, Sutherland, and Bulli are identical in names with those of their headquarters of administration. Baulkham Hills is the designation of a postal centre within the shire of the same name. The

shire of Bulli lies almost wholly within the county of Cumberland, but Bulli, its township headquarters, lies over the border in the neighbouring county of Camden.

THE SOUTH COAST DIVISION.

The South Coast Division of New South Wales is comprised in the four counties of Camden, St. Vincent, Dampier, and Auckland, in the order named; and occupies an area which stretches diagonally in a south-westerly direction over three and a third degrees of latitude, and nearly two degrees of longitude. It is bounded on the north by the rivers Nepean and Cataract, which separate it from the metropolitan county of Cumberland; on the south by the eastern portion of a surveyed straight line, running from Cape Howe to Forest Hill, in the Snowy Mountains, and separating the States of New South Wales and Victoria; on the east by the waters of the South Pacific Ocean, from a headland north of Bulli to Cape Howe on the south; and on the west by the river Warragamba, by the river Wollondilly and its tributary head-waters, and by the Shoalhaven River to its source near Mt. Italy, thence by the Gourcock section of the Main Dividing Range to the western watershed of the Kybean and Umaralla Rivers, and thence by the South Coast Range, running southward from the successive points of Big Hill, Thoko Hill, Mount Marshall, Burimbucco, and Mount Tennyson on the Victorian border.

In the north-eastern portion of the Division is a continuation of the coal-measures which have their main deposit in the Maitland and Newcastle Districts, and which provide the county of Camden with its staple industry. The mining interests in the counties of St. Vincent, Dampier, and Auckland are represented by the gold industry, and many names occur which are reminiscent of a period, comparatively speaking, of a distant past, such as Pambula, Araluen, Major's Creek, Braidwood, Nelligen, and Wolumla. At the time of the 1911 census there was, however, a smaller number of men employed in gold-winning than in the old days of the gold-fever era; but this is partly ascribable to the adoption of dredging, a method of securing the previous metal which, in districts to which it is adapted, is proving increasingly profitable.

Dairy-farming is widely pursued in the counties of Camden and St. Vincent, and to a less degree in that of Dampier, in which county is Bodalla, famous throughout Australia for the production of cheese. The South Coast supplies the metropolis with the major portion of its daily milk, and is noted for its butter-making, bacon-curing, and other cognate industries. Notwithstanding the prosperity of primary production in the South Coast, the Division suffered a process of depopulation, largely owing to the withdrawal of a number of dairy-farmers whom the railway facilities and the prospects of freehold ownership on the North Coast, lured to more progressive and expanding districts.

The subjoined table gives for each county and for the Division the population at the three census periods under review, together with the density of population per square mile.

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Camden ...	2,231	41,318	42,135	43,097	18.51	18.88	19.32
St. Vincent ...	2,630	13,701	14,121	11,817	5.21	5.37	4.49
Auckland ...	2,050	9,695	10,776	10,148	4.73	5.31	5.00
Dampier ...	1,658	5,044	5,713	5,656	3.04	3.45	3.41
Total ...	8,569	69,758	72,745	70,718	8.14	8.49	8.25

Camden is the only county in the Division which continuously gained population throughout the two decades from 1891 to 1911, but the increase for twenty years was only 1,779; from 1891 to 1901 it was 917, and from 1901 to 1911 it fell to 862. The density of persons per square mile had increased only from 18·52 to 19·32 for the whole twenty years, and, very far below that of Northumberland, in 1911 it was even less than that of the purely pastoral and agricultural county of Rous, which leads the North Coast group as does Camden the South. From 1891 to 1901 the county of St. Vincent gained 427 inhabitants, and lost 2,311 in the next decade, or 1,884 over the twenty years; the population density declined during the whole period from 5·21 to 4·49 persons per square mile. Auckland gained 1,081 inhabitants in the first decade, and lost 628 in the second; the increase for the twenty years under review being only 453 persons, and the density per square mile, which in 1891 was 4·73, rising to 5·31 in 1901, had fallen to 5 in 1911. Dampier during the first decade gained 708 persons to its population, and lost 96 during the second, the total gain for twenty years being only 612, the density ranging from 3·04 to 3·41 over the same period.

For the entire Division the incidence of the population movement was no less discouraging, for the small advance in the county of Camden was more than discounted by the retrogression of the three other counties. For the first decade there was a gain for the Division of 3,133, and for the second decade there was a loss of 2,173, thus showing a total increase over twenty years of only 960 inhabitants, and an increase in density of persons per square mile from 8·14 to 8·25—in 1901 it was 8·49.

The subjoined table shows the population of the municipalities of the South Coast Division for the three census periods under review :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
North Illawarra	Camden ..	2,515	3,190	5,157
Central Illawarra	„ ...	3,247	4,664	5,000
Wollongong	„ ...	3,041	3,545	4,660
Bega	Auckland ...	2,023	1,898	1,969
Nowra	St. Vincent ...	1,705	1,904	1,884
Camden	Camden ...	1,303	1,719	1,797
Bowral	„ ...	2,258	1,752	1,751
Berry	„ ...	908	1,990	1,621
Kiama	„ ...	2,302	1,769	1,601
Shellharbour	„ ...	1,587	1,929	1,512
Ulladulla	St. Vincent ...	1,582	1,765	1,502
Moss Vale	Camden ...	1,240	1,385	1,474
Braidwood	St. Vincent ...	1,496	1,551	1,233
Jamberoo	Camden ...	2,235	1,291	1,100
Mittagong	„ ...	1,468	1,210	976
Pictou ... ..	„ ...	...	1,053	954
Moruya	Dampier ...	1,236	1,099	945
Gerrigong	Camden ...	1,534	1,051	794
Central Shoalhaven	St. Vincent ...	451	...	...
South Shoalhaven ... ..	„ ...	...	909	721
Numba	„ ...	688	...	...
Broughton Vale	Camden ...	424	322	236
Total, Municipalities ...		33,243	35,996	36,887

There are twenty-two municipalities given in the foregoing table, two of which have since dropped out, and several have changed names. The Act, passed in 1858, providing for the establishment of municipal institutions

outside the city of Sydney, was taken advantage of, during the following year, by the five districts of Wollongong (22nd February), Shellharbour (4th June), Kiama (11th August), Central Illawarra (19th August), and Shoalhaven (September), and they were all proclaimed boroughs. Kiama consisted of 42,944 acres in 1890, when it was divided into two incorporated areas, namely, Kiama and East Kiama, the latter comprising only 2,304 acres, and containing the township with a population of 2,302 persons, the parent borough being represented at the census of 1891 with a population of 2,235. But no rating was struck nor were assessments made under the arrangement of 1890.

At the census of 1891 the old borough reappeared as Jamberoo, and the township retained the original name of Kiama, which, prior to incorporation in 1859, appeared first in a census enumeration in 1851 with a population of 199, which number had risen in 1856 to 495. In 1861 Kiama's inhabitants numbered 4,071, and in 1871 they numbered 4,253; but at these two census periods the populations of Broughton Vale, Gerringong, and Jamberoo were included within the boundaries of the borough, which had an area of over 133 square miles.

Broughton Vale was created a municipal district on the 22nd April, 1871, and its first appearance in a census enumeration was in 1881, with a population of 457. Gerringong, which began its municipal existence on the same date, had at the census of 1881 a population of 1,047. This disruption of a large territorial area into four municipalities, together with the retention of the original name for the smallest section, illustrates the care with which comparisons must be made for former years. Before inclusion in the original borough of Kiama, Gerringong appeared in the census enumeration of 1856, as a village, with a population of 68 persons.

Shellharbour made its first appearance in a census enumeration as a borough in 1861 with a population of 1,415 persons, which number in 1871 rose to 1,732, but declined in 1881 to 1,400. Shoalhaven was a borough bereft of all municipal privileges for nine years, when, on the 24th October, 1868, it was re-incorporated under the name of Numba, Mr. Alexander Berry, the pioneer of the Shoalhaven District, having restrained the aldermen from the exercise of their municipal functions under an injunction of the Court. In 1861 the population of Shoalhaven was recorded as 1,042, in 1871 (under the name of Numba) it had fallen to 646. Central Shoalhaven was formed out of the municipality of Numba on the 7th November, 1878, and appeared for the first time in a census enumeration in 1881 with a population of 578, the population of Numba being 639. At the census of 1891 Numba's population was recorded as 688, and that of Central Shoalhaven as 451. On the 14th December, 1895, the two municipalities were reunited and thenceforth known as South Shoalhaven.

Wollongong's first appearance in a record of population statistics was in 1841, when its inhabitants numbered 831, but it suffered a decrease before the census of 1846, its population having fallen to 515. In 1851 the population was 501 persons, but in 1856 it experienced a recovery, its inhabitants then numbering 864. As a municipality, its population in 1861 was 1,397, in 1871 it was 1,297, and in 1881 it was 1,635.

North Illawarra was proclaimed a borough on the 24th October, 1868, and first appeared in a census enumeration in 1871, with a population of 763 persons, the number of which at the census of 1881 was increased to 1,011. The remaining borough in the South Coast Division, Picton, was proclaimed on the 14th March, 1895, though it first appeared as a village in 1846 with a population of 120 persons, which increased to 142 in 1851, and declined to 131 in 1856, though Upper Picton appeared in the census of 1856 with 95

inhabitants, bringing the combined population up to 226. The population of Picton, prior to incorporation, was in 1861 recorded as 384, in 1871 as 452, in 1881 as 667, and in 1891 as 1,176.

The municipal district of Broughton Creek and Bomaderry was proclaimed on the 24th October, 1868, but its name was subsequently changed by Act of Parliament to Berry. In 1871 its population was recorded as 1,154, in 1881 as 1,288, and in 1891 as 908, in which year Bomaderry township was listed as containing 74 inhabitants.

Nowra appeared first in a census enumeration in 1871 with 243 inhabitants. It was incorporated as a municipal district on the 29th December, 1871, and at the census of 1881 its population was 886. Ulladulla first appeared in a census enumeration in 1861 with a population of 84, in 1871 it was 129, and in 1881 it was 1,615, when Ulladulla was then a municipal district, incorporated on the 14th April, 1874.

Bega, incorporated a municipal district on the 12th November, 1883, appeared in the census enumeration of 1861 with a population of 625 persons, in 1871 it was 872, and in 1881 it was 1,634. Bowral, incorporated a municipal district on 17th February, 1886, appeared first in a census enumeration in 1871 with a population of 133 persons, and in 1881 it was recorded as 363.

Camden, incorporated a municipal district on the 6th February, 1889, first appeared in a census enumeration in 1846 with a population of 242 persons; in 1851 it numbered 342, in 1856 it numbered 458, in 1861 it numbered 685, in 1871 it numbered 604, and in 1881 it numbered 505.

Moss Vale, incorporated a municipal district on the 14th September, 1888, made a first appearance in a census enumeration in 1871 with a population of 134 persons, which number had risen to 570 in 1881. In 1846 the census recorded Broulee as a South Coast centre; but in 1856 Moruya took its place as the seaport to the Araluen back-country, with a habitancy of 148 persons. The population of Moruya in 1861 was recorded as 250, in 1871 as 547, in 1881 as 829, and the township was incorporated as a municipal district on the 13th March, 1891.

Mittagong, incorporated a municipal district on the 24th July, 1889, made its first appearance in a census enumeration in 1871 with a population of 291, which increased to 499 in 1881. Braidwood, incorporated a municipal district on the 24th March, 1891, first appeared in census records as a mining township in 1846, when its population numbered 206, in 1851 it was 212, in 1856 it was 507, in 1861 it was 959, in 1871 it was 1,197, and in 1881 it was 1,066.

The municipal population of the Division in 1891 was 33,243, Picton, with a population of 1,176, not being incorporated until the 14th March, 1895. For purposes of comparison Picton should, therefore, be deducted from the totals of 1901 and 1911, the population of the municipality being respectively for these periods 1,053 and 954. The municipal population for the Division, less Picton, was at the 1901 census, 34,943, or an increase on that of the previous census of 1,700 persons; at the 1911 census the municipal population for the Division, less Picton, was 35,933, or an increase of 990 persons on that of the previous census; while the increase for the twenty years was 2,690—an increase due entirely to the progressive prosperity of the municipalities of North and Central Illawarra, Wollongong, and Moss Vale. This aspect of the increase or retrogression of population is not from an urban, but from a municipal view-point; because a number of the incorporated areas were but sparsely populated, and had little pretensions to be considered more than village nuclei.

Of the twenty municipalities which the Division now contains, including that of Camden, which is partly in the metropolitan county of Cumberland, thirteen have suffered a declension in their population—twelve on the figures of the 1891 census, and one on those of 1901. In this statement, Numba and Central Shoalhaven are taken as equivalent to South Shoalhaven. Two municipalities have remained in a position which is practically stationary. The progress of the municipality of Camden is due to the prosperity of such primary production as dairying, market-gardening, and rabbit-trapping.

North Illawarra, which contains the colliery townships of Corrimal and Bellambi, owes its increase in population to some extent to the continuous expansion in the district of the area mined for coal, and partly to its dairy-farming industry. The headquarters of North Illawarra is itself a municipality, namely, Wollongong, a centre of coalfields, and a town busy with manufactures of various kinds, engineering works and saw-mills. Central Illawarra, a municipal district devoted to dairy farming, contains the town of Unanderra, its headquarters, and the town of Dapto, both of them being practically depots of the metropolitan milk supply. Moss Vale, another advancing municipality, is a railway centre of large landed estates, a picturesque tourist resort, and to some extent a manufacturing town. Bowral and Bega are stationary, the former for the decade 1901-11, the latter for the whole twenty years extending between 1891 and 1911. The municipal district of Ulladulla, which contains the township of Milton, is losing its population, its density having declined from 0·06 persons per acre in 1901 to 0·05 in 1911.

Broughton Vale, a small municipality, which has steadily declined from 424 inhabitants in 1891 to 236 in 1911, declined similarly from a density of 0·03 to a density of 0·01 persons per acre; indeed, the single municipality in the Division with a population of a moderate urban density was Wollongong, with 2·43 persons per acre. The exodus has been general in the majority of the municipal districts. Jamberoo lost more than half its population in twenty years; Gerringong, nearly a half; Mittagong, about one-third; Kiama, more than one-third; and so on.

One of the causes of the progressive depopulation of the South Coast, and the concurrent expansion of the North Coast, was the existence in the former of a number of vast proprietary estates, which the owners have, for a number of years, sub-let to tenants as dairy-farms. As soon, however, as the railway began to unlock the northern littoral, the tenants migrated in great numbers, with the object of securing, direct from the Crown, holdings which, in the course of time, would automatically become freehold. Nearly all the municipalities affected by this withdrawal of settlement depended commercially for their progress on agriculture and dairy-farming, and the export of butter, cheese, bacon, eggs, poultry, and other primary products. The milk condensing industry was established in some centres; others, like Braidwood, in which gold-mining is still pursued, had saw-mills, and refrigerating works for the treatment of rabbits for the wholesale market.

Some centres were of mixed industrial pursuits and primary production. Ulladulla, and its township centre Milton, was a depôt for fish exportation to the metropolis and elsewhere. Berry was the site of an experimental farm. Bowral and Kiama had extensive quarries, and the first was noted for its market-garden produce. Mittagong had an important malting establishment. Nevertheless, dairy-farming, primarily, and saw-milling and timber-getting, secondarily, were the staple pursuits of the three southernmost counties, and shared with coal-mining those of the county of Camden.

A curious anomaly of the census of 1911 is to be found in its quasi-urban expansion, with respect to unincorporated towns of 500 inhabitants and up-

wards, as compared with the decline of many municipal centres which claim also the status of towns and possess the additional dignity of incorporation. The following table exhibits these unincorporated "Localities" (otherwise undefined) of 500 inhabitants and upwards for the census of 1911, with towns and villages so described for the census periods of 1891 and 1901 :—

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Woonona ...	Camden ...	...	...	1,676	1,758	2,307
*Corrimal ...	" ...	401	—	...	—	1,778
Bulli ...	" ...	...	...	902	962	1,397
*Milton ...	St. Vincent ...	—	—	—	—	1,084
*Dapto ...	Camden ...	—	—	—	—	938
Balgownie ...	" ...	—	—	—	—	957
Kembla ...	" ...	—	—	—	—	878
Port Kembla ...	" ...	—	—	—	—	844
Araluen ...	St. Vincent ...	229	...	...	685	771
*Bellambi ...	Camden ...	204	155	...	...	690
Candelo ...	Auckland ...	473	...	...	542	643
Eden ...	" ...	359	347	...	...	626
Cobargo ...	Dampier ...	346	...	...	519	610
Bemboka ...	Auckland ...	—	323	—	...	593
Kangaroo Valley	Camden ...	...	483	552	...	561
*Unanderra ...	" ...	—	—	—	—	558
Pambula ...	Auckland ...	422	...	...	543	532
Mount Keira ...	Camden ...	—	—	—	—	520
Robertson ...	" ...	460	...	...	574	510
						16,797
						Under 500.
Major's Creek ...	St. Vincent ...	...	...	966	611	337
Burratorang ...	Camden ...	...	492	531	...	411
Cambewarra ...	" ...	...	342	517	...	402
Kangaloon ...	" ...	...	...	530	502	357
†Pictou ...	" ...	...	...	1,176	...	...
Little River ...	St. Vincent ...	...	—	807	—	—
Joadja Creek ...	Camden ...	...	—	625	—	—
Wolumla ...	Auckland ...	...	441	511	...	450
Mount Kembla ..	Camden ...	263	—	...	—	332
Bega Settlement	Auckland ...	—	62	—	...	—
North Bega ...	" ...	—	171	—	...	—
				8,793	6,696	16,797
*Less Townships included within Municipal Boundaries				...	...	5,048
Total, under 500 Inhabitants ...				8,793	6,696	11,749

† Pictou was incorporated 11th March, 1896.

Of the foregoing thirty towns, villages, and localities of the Division of the South Coast, seven appear for the first time in a census enumeration in 1911, three in 1901, ten in 1891, three in 1881, four in 1871, one in 1861, 1856, and 1846 respectively.

Of towns and villages recorded prior to 1891, Bulli, Woonona, and Wolumla date from 1881, when the inhabitants of Bulli and Woonona (taken together) numbered 1,628, and those of Wolumla, 352. The four places first listed in 1871 were Araluen, Candelo, Major's Creek, and Kangaloon. In 1871 Araluen was accredited with a population of 2,900, which

fell to 609 in 1881, Candelo with a population of 118 which increased to 146 in 1881, Major's Creek and Kangaloon with populations respectively of 1,074 and 517, and no record of habitation for 1881—a common omission for this census year, owing doubtless to the destruction of the records of the enumeration, with other statistical matter, in the fire which consumed the Garden Palace Exhibition Building, in the Inner Domain, on the early morning of the 22nd September, 1882. Picton has already been noted in this particular in the part dealing with municipalities. Pambula (then written "Panbula") had in 1856 a population of 203 persons, in 1861 it was 186, in 1871 it was 293, and in 1881 it was 128 persons. Eden dates in the statistics of population from 1846 with 63 inhabitants. In 1851 its population was 120 persons, in 1856 it was 235, in 1861 it was 482, in 1871 it was 214, and in 1881 it was 231 persons.

Five important towns of the South Coast Division appearing in the foregoing table, namely Corrimal, Milton, Dapto, Bellambi, and Unanderra, were included in municipalities—Corrimal and Bellambi in that of North Illawarra, with populations respectively of 1,778 and 690, Dapto and Unanderra in that of Central Illawarra, with populations respectively of 938 and 558, and Milton, included in that of Ulladulla, with a population of 1,084, according to the figures of the "Localities" census of 1911. Unanderra is the headquarters of the municipality of Central Illawarra, as Milton is of Ulladulla. Both Unanderra and Dapto are receiving depôts for dairy produce, particularly of milk, destined for the supply of the metropolis. Milton, which is the centre of a well-timbered region, supports saw-mills, butter and cheese factories, and a well-equipped tannery, and is noted for the breeding of dairy cattle.

Balgownie, Kembla, Port Kembla, and Mount Keira are new names in the census tabulation. They are all within the coalfields area, and Kembla is probably identical with the Mount Kembla of the census of 1891. Corrimal did not appear in the census of 1901, but it had a recorded population in that of 1891 of 401 inhabitants, and like Bellambi, which also first appeared in the census last mentioned, it is also within the coalfields area. Araluen, Cobargo, Major's Creek, Braidwood, Moruya, Pambula, and Wolumla are goldfields still being exploited; but Little River, though occasionally visited by fossickers, is now practically deserted. Araluen is the site of considerable gold-dredging activities. Cobargo, though a mining centre, is mainly devoted to dairy-farming. The whole of these unincorporated towns are surrounded by pasture-lands and farms, or else they are the supply-places, with only a general store and an hotel, for a mining district or a timber-cutting area.

Like other parts of Australia, the Division of the South Coast has experienced disillusion, and learnt the futility of premature preparation. Alexander Berry, with sanguine expectation, foresaw in the Shoalhaven District a development which was to eclipse earlier established settlements. He cut the first canal in the Australian Continent to escape the complicated and devious channels of a typical river-estuary of the eastern coast, and to win a direct passage to the open sea. The township of Terrara, still shown on old maps with Numba and Nowra as one of the three quasi-urban centres of the district, came into existence as a predestined rival of ports better situated and more accessible from the sea, and though its prospects were at one time encouraging, it never outgrew its period of tutelage. At the census of 1871 its population numbered 218; but at the census of 1911—forty years afterwards—it had fallen to 110.

Huskisson, situated on the fine, landlocked, and deep-sea harbour of Jervis Bay, deserved a better fate than that which has befallen it. Destined

fifty years ago as the entrepôt of the wool export for the South Coast, a railway line was surveyed to the port, but engineering difficulties, at that time thought to be insuperable, stopped the proposed enterprise; and the construction of the South Coast railway, which was to have been connected with Goulburn by a western branch line from Nowra, has not progressed beyond the latter as a terminus. At the census of 1911 the population of the township of Huskisson was only 119. The leading "Localities," such as Woonona, Corrimal, Bulli, Balgownie, and Bellambi, are in the coal-producing region, occupied in the main by primary producers. The Joadja Creek shown in the table was a one-time working of a valuable deposit of mineral oil-shale. Bega Settlement and North Bega, with a population together of 233 in 1901, are shown as unincorporated portions adjoining the municipality of the same name.

The subjoined table shows the constitution of the Division for the three census periods of 1891, 1901, and 1911, according to its municipal and non-municipal urban and its rural elements in each county:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Camden ...	Municipal ..	24,062	...	26,870	...	28,633	...
	Non-municipal ...	6,509	...	3,796	...	7,974	...
	Total ..	30,571	10,747	30,666	11,469	36,607	6,490
St. Vincent...	Municipal ...	5,922	...	6,129	...	5,340	...
	Non-municipal ...	1,773	...	1,296	...	771	...
	Total ...	7,695	6,006	7,425	6,696	6,111	5,706
Auckland ...	Municipal ...	2,023	...	1,898	...	1,969	...
	Non-municipal ...	511	...	1,035	...	2,394	...
	Total ...	2,534	7,161	2,983	7,793	4,363	5,785
Dampier ...	Municipal ...	1,236	..	1,099	...	945	...
	Non-municipal ...	—	...	519	...	610	...
	Total ...	1,236	3,808	1,613	4,095	1,555	4,101
Grand Total ...		42,036	27,722	42,692	30,053	48,636	22,082

The foregoing table shows a remarkable increase in the population of "Localities," together with a declining population for the Division. It is not merely the result of overstatement of municipal habitancy (being the excess of the population of "Localities" over the number of persons living within municipalities of defined areas, which in the South Coast Division amounted to 11·3 per cent.), but of the growing tendency to accept aggregations of primary producers as constituting urban centres. It is noteworthy, also, that the rapid accretion of urban and the correspondingly rapid decrease of rural population is greatest in the county of Camden, the only county of the group which shows any increase in population for the period 1901-11. The result is all the more interesting from the fact that actually more than half of the breadwinning adults in the Division were primary producers, who have always held a predominant position in the development of the South Coast. The county of Auckland was first exploited as a base for the whale-fisheries of Australia very early in the history of New South Wales. Eighty years ago Boyd Town was a highly prosperous centre

of this industry, but it has been superseded gradually by the Government township of Eden. Mining established itself in the Division soon after the discovery of payable gold, and the cedar-trade of the South Coast was pursued even to the utmost limits of ruthless destruction of valuable forests. After the elimination of timber-trees, dairy-farming, cattle and pig breeding, and cognate industries, were taken up in succession.

Camden was the scene of the young Colony's first cattle farm, and the cradle of the wool-growing enterprise established by Macarthur. In the course of time towns grew up which were supported by such secondary industries as cheese and butter making, bacon curing, and coke production—all forms of manufacture which deal at first-hand with the raw material grown or won in the immediate vicinity of treatment; and, as shown by the foregoing statement, such industries, depending as they do so intimately on the efforts of primary production, are inconsistent with the postulate of a preponderating urban population, which, if the figures given by the "Localities" census be accepted without examination, presented in 1911 the following results:—

	1891.	1901.	1911.
Municipalities	33,243	35,996	36,887
Unincorporated Towns and Villages (1891 and 1901) and "Localities," not otherwise defined (1911) of 500 Inhabitants and upwards	8,793	6,696	11,749
Total, Quasi-urban	42,036	42,692	48,636
Remainder of Division (Rural)	27,722	30,053	22,082
Total, Division	69,758	72,745	70,718

According to the figures of this statement the urban population of the Division was, in 1911, altogether disproportionate with the rural industries carried on within its boundaries, as will at once appear from the following table:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	23,347	3,105	5,335	3,568	1,178	13,186	4,636	2,223	1,367	1,074	601	257	10,161
Females ..	4,420	113	610	..	2	725	514	402	92	650	1,940	97	3,695
Total ..	27,767	3,218	5,945	3,568	1,180	13,911	5,150	2,625	1,459	1,724	2,544	354	13,856

Of the 27,767 breadwinners in the South Coast Division, as already shown, half belonged to the class of primary producers, and each of the three leading sub-orders was well represented, with a preponderance of those engaged in pastoral pursuits, the counties of Camden and St. Vincent constituting the State's most prominent dairying district for the metropolitan supply of milk. Camden is also the centre of the South Coast coal industry, and a considerable proportion of its workers are agriculturists. The class of dependents on natural guardians was as 1·34 to one of the class of breadwinners. The total number of persons classed as primary producers was 13,911, and the number of their dependents would therefore be 18,640. The number of

female domestics employed by breadwinners was 1,940 throughout the division, or a proportion of 6·3 of all breadwinners. This would show a rural population, based on primary producers, of 33,510. The census enumeration showed 113 females as being engaged in agriculture, and 610 in pastoral pursuits, or a total of 723 for this Division. The police returns gave respectively 73 and 3,240, or a total of 3,313 females engaged in these two branches of primary production. The census classification of 1911 included, therefore, 2,590 females among the dependents on natural guardians, who were partially engaged in agriculture and dairying, and partially in the discharge of domestic duties.

The subjoined statement shows the relation of primary producers to other classes of breadwinners at the census of 1911, inclusive of 354 persons classed as independents :—

Class—Primary Producers	...	...	...	...	...	13,911
„ Industrial	...	...	...	...	...	5,150
„ Commercial	...	...	...	...	...	2,625
„ Domestic...	...	...	...	...	...	2,544
„ Professional	...	...	...	...	...	1,724
„ Transport and Communication	..	...	...	...	...	1,459
„ Independents	...	...	...	...	...	354
Total						27,767

The 1,180 “Other” primary producers included 820 males engaged in forestry, 223 males and one female engaged in fisheries, 98 males and one female engaged in hunting and trapping, and 37 males engaged in water conservation and supply. Throughout the division 622 persons were engaged as workers in food, 1,264 in buildings, roads, railways, etc., 469 in traffic upon the roads, and 178 on seas and rivers. The constitution of the population of the whole of the Division was one based on primary production, and of the secondary industries that depend for their existence and continuous prosecution on the constant activities of primary producers. The commercial, professional, transport, and domestic classes were relatively in a subsidiary relation, and this fact strongly emphasises the essential character of the industrial constitution of the Division.

The South Coast Division contains ten shires for purposes of Local Government, which, with their respective headquarters of administration, are as follow :—

Shire.	Headquarters.	Shire.	Headquarters.
Wollondilly	... The Oaks	Clyde	... Tomerong
Bulli	... Bulli	Tallaganda	... Braidwood
Nattai	... Bowral	Eurobodalla	... Moruya
Wingecarribee	... Moss Vale	Mumbulla	... Bega
Cambewarra	... Kangaroo Valley	Imlay	... Eden

The only duplication of name is in the case of the shire of Bulli, the headquarters of which are established in the unincorporated colliery township of Bulli. Bowral, Moss Vale, Braidwood, Moruya, and Bega, the headquarters, respectively, of the shires of Nattai, Wingecarribee, Tallaganda, Eurobodalla, and Numbulla, are all incorporated as municipal districts. Of the unincorporated townships utilised as shire-centres, Bulli, Kangaroo Valley, and Eden possessed urban status based on a standard of population, The Oaks and Tomerong being accredited, respectively, with populations of 319 and 165 persons.

THE DIVISION OF THE NORTHERN TABLELAND.

The Division of the Northern Tableland includes an area of 13,950 square miles, and is confined within the following boundaries, namely:—

The head-waters of the Dumaresq River and the Lower Severn, the Wallangarra Range (a western spur of the Main Dividing Range), the Main Dividing Range, and a western extension of the Macpherson Range eastward to the source of Lindsay Creek, on the north; a section of the Main Dividing Range from its junction with the Moonbi Range (the southern section of the New England Range) to its junction with the Hastings Range, and along the latter to Spokes Hill, at the southern extremity of the Botumburra Range on the south; the western boundary of the Division of the North Coast on the east (*see* p. 494); and Beardy River and Swamp Oak Creek (affluents of the Dumaresq River), thence southward by a range of hills to the latitude of Glen Innes, thence westward by irregular surveyed lines to Campbell's Mountain, thence southward by Auburn Vale Creek, the Upper Gwydir River, the Mount Drummond spur, and the Nandewar and Moonbi Ranges, on the west.

For the purpose of administering the public estate under the provisions and regulations of the various Land Acts, this territory has been subdivided into the nine counties of Buller, Clive, Drake, Gough, Gresham, Hardinge, Clarke, Sandon, and Vernon—in the order of their geographical succession from north to south, and from west to east.

It is a highly mineralised region, and gold-winning is pursued on such well-known fields as Drake, Hillgrove, Uralla, Wilson's Downfall, Armidale, Glen Innes, and Tenterfield. Silver, lead, and zinc are also mined for at some of the places named, and are often associated with gold. Copper is profitably extracted in some parts of the Division. Copeton is prospected with success for diamonds, and tin-mining is a continuous pursuit at Deepwater, Emmaville, Vegetable Creek, and Tingha. The mining centre of Hillgrove contains gold, silver, copper, tin, and other minerals, including scheelite; Armidale, gold, silver, lead, zinc, and miscellaneous metals; Wilson's Downfall, gold, silver, lead, zinc, and tin; Drake, gold, silver, lead, zinc, and copper; and Deepwater, a noted tin-mining centre, produces also the highly-valuable ore from which molybdenum is extracted.

The following table shows the population of the counties constituting the Division, together with density of persons per square mile, at the census periods of 1891, 1901, and 1911:—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Gough ...	1,991	12,997	13,998	17,445	6·53	7·03	8·76
Sandon ...	1,322	12,920	14,346	13,780	9·77	10·85	10·42
Hardinge ...	1,719	4,206	6,433	7,140	2·45	3·78	4·19
Clive ...	1,726	4,067	4,453	5,685	2·36	2·58	3·29
Vernon ...	1,715	2,587	2,655	3,117	1·51	1·55	1·82
Clarke ...	1,574	1,367	1,599	2,640	0·87	1·02	1·68
Buller ...	1,482	1,524	1,409	2,424	1·03	0·95	1·64
Drake ...	1,336	1,245	1,343	1,173	0·93	1·01	0·88
Gresham ...	1,085	525	442	777	0·48	0·41	0·72
Total ...	13,950	41,438	46,678	54,181	2·97	3·35	3·88

The progress of the Division has been slow, but substantial and continuous. From 1891 to 1901 the population increased by 5,240 persons, and from 1901 to 1911, by 7,503 persons, the accretion for the twenty years amounting to 12,743, and the density ranging from 2·97 to 3·88 persons per square mile. Gough, a county which contains the important municipal towns of Inverell and Glen Innes and the tin-mining centres of Emmaville and Deepwater, added 1,001 persons to its population during the first decade, and 3,447 during the second, or 4,448 during twenty years; and its density of population per square mile for the three census periods under review was, in order of succession, 6·53, 7·03, and 8·76 respectively.

Sandon, more densely populated, made but little progress, and during the latter period, actually retrograded, notwithstanding the importance of its municipal towns of Armidale, Hillgrove, and Uralla, and the metalliferous character of much of its geological formation. From 1891 to 1901 the county gained 1,426 inhabitants, and, from 1901 to 1911, lost 566, making its total gain for twenty years only 860; while its density of population ranged from 9·77 to 10·42 persons per square mile—in 1901 it was 10·85. Hardinge, a county of farms and pasturages, considerably inflected by mining activities, had increased the number of its inhabitants by 2,934 over twenty years, the accretion for the first decade being 2,227, and for the second 707; while the density, which in 1901 was 3·78 persons per square mile, rose from 2·45 to 4·19 during the twenty years under review.

The county of Clive, which contains the important municipal town of Tenterfield, increased its population during the twenty years intervening between the censuses of 1891 and 1911 by only 1,618 inhabitants—distributed over the first decade the number was almost negligible, being but 386; in the second decade the accretion was 1,232, and the density of persons per square mile respectively 2·36, 2·58, and 3·29. The county of Vernon, from the census of 1891 to that of 1911, made but little progress, though its chief town Walcha, the municipal centre of a pastoral region, steadily advanced. The county gained 530 inhabitants within twenty years; within the same period Walcha gained 470. During the first decade the population of the county of Vernon increased by 68 inhabitants; during the second by 462; and its density of persons per square mile rose slowly from 1·51 to 1·55, and to 1·82 for the three census periods under review.

The county of Clarke, which is predominantly pastoral, increased in population during the twenty years by 1,273 inhabitants; in the first decade by 232 and in the second by 1,041, and its density of population ranged from 0·87 to 1·68 persons per square mile. The county of Buller lost 115 inhabitants during the decade that ended with the census of 1901, and gained 1,015 inhabitants during the next ten years, the total gain for twenty years being 900; while its density, which declined to 0·95 in 1901, ranged from 1·03 to 1·64 during the period 1891–1911.

The county of Drake, notwithstanding its rich mineral deposits, lost 72 inhabitants during the period extending from 1891 to 1911, caused by a small increase of 98 during the first decade and a decline of 170 in the second; the density of population, which rose from 0·93 to 1·01 per square mile at the date of the census of 1901, fell to 0·88 at that of the census of 1911. The county of Gresham gained 252 inhabitants during the twenty years' period 1891–1911, but the first decade was marked by a decrease of 83 persons, and the second by an increase of 335; the density rising over the whole period from 0·48 to 0·72.

The subjoined table shows the population of the municipalities of the Division of the Northern Tableland for the three census periods under review :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Armidale	Sandon	3,826	4,249	4,738
Inverell	Gough	2,534	3,293	4,549
Glen Innes... ..	Gough	2,532	2,918	4,089
Tenterfield	Clive	2,477	2,604	2,792
*Hillgrove	Sandon ... ..	...	2,274	1,581
Walcha	Vernon	864	980	1,334
Uralla	Sandon	819	681	1,019
Total, Municipalities ...		13,052	16,999	20,102

* Hillgrove was proclaimed a borough on the 20th September, 1899.

Of the foregoing seven incorporated towns, two were boroughs, namely, Armidale (proclaimed the 13th November, 1863), and Hillgrove (proclaimed the 20th September, 1899), and five were municipal districts, namely, Tenterfield (proclaimed the 22nd November, 1871), Inverell and Glen Innes (proclaimed respectively on the 4th March and the 17th June, 1872), Uralla (proclaimed the 24th April, 1887), and Walcha (proclaimed the 7th March, 1889).

Armidale made its first appearance in a census enumeration in 1851 with a population of 556 persons, which increased in 1856 to 857, in 1861 to 910, in 1871 (then a proclaimed borough) to 1,369, and in 1881 to 2,187. The other borough in the Division of the Northern Tableland, namely Hillgrove, made its first appearance in a census enumeration in 1891 as an unincorporated mining township, with a population of 2,412 persons—a number which included 314 persons, the population of Hillgrove West.

Tenterfield dates statistically from 1856, when its population was 133 persons, in 1861 it was 676, in 1871 it was 911, and in 1881 (then a proclaimed municipal district) it was 1,816. Inverell, Glen Innes, and Walcha all made their first appearance in 1861, with populations respectively of 177, of 288, and of 355 persons. In 1871 the population of Inverell was 853, and in 1881 (then a municipal district) 1,965. In 1871 the population of Glen Innes was 635, and in 1881 (then a municipal district) 1,327. In 1871 the population of Walcha was 246, and in 1881 it was 309. Uralla made its first appearance in a census enumeration in 1871 with a population of 254 persons, which by 1881 had increased to 380.

Armidale, the chief town of the New England Tableland, is the centre of a large pastoral and agricultural country, but there is also considerable mining activity in county Sandon, of which Armidale is the headquarters, 456 primary producers being engaged in the winning of metals, as contrasted with 695 persons engaged in pastoral pursuits, and 714 in agriculture. Sandon, though the most densely populated of the counties constituting the Division, is not the most populous—a distinction claimed by Gough. The leading town of Gough, at least in population, is Inverell; Glen Innes, the third numerically important town in the Division, being the second town in the county. Both Inverell and Glen Innes are surrounded by a region rich in minerals, and well-adapted to pastoral, agricultural, and dairy-farming pursuits. The number of miners employed in the county of Gough was 1,074, as contrasted with 952 persons engaged in agriculture and 935 in pastoral pursuits. In

the county of Hardinge 795 miners were engaged, as compared with 692 engaged as pastoralists and 300 in agriculture.

Throughout the whole Division mining was represented in every county. The municipal town of Tenterfield is the centre of the tin-mines of New England, the headquarters of a shire of the same name, and the chief place in the county of Clive; but agricultural and pastoral interests are well represented. Hillgrove is a mining centre in a pastoral region; but the municipality is exclusively devoted to the winning of minerals, including gold, silver, tin, copper, lead, zinc, and scheelite. Walcha is almost entirely pastoral; and Uralla is both agricultural and pastoral, but the district around is highly auriferous, and engages a number of miners, though their efforts are considerably circumscribed by want of water.

The following table shows other than municipal urban centres, namely, "Localities" (not otherwise defined) of 500 inhabitants and upwards for the census of 1911; with towns and villages, so described, for the census periods of 1891 and 1901:—

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Tingha	Hardinge .. ..	...	...	1,167	727	1,938
Emmaville ..	Gough .. ..	...	...	978	978	1,585
Guyra	Hardinge and Sandon..	—	...	—	547	1,309
Howell	Hardinge	—	452	—	...	830
Bundarra ..	Hardinge	330	453	...	...	814
Deepwater ..	Gough	362	423	...	...	710
						7,186
						Under 500.
Drake	Drake	71	...	...	814	347
Bora Creek ..	Hardinge	—	...	—	570	—
Hillgrove ..	Sandon .. ..	...	(mun.)	2,412	(mun.)	(mun.)
Total, over 500 Inhabitants ..				4,557	3,636	7,186

Of the nine unincorporated townships in the foregoing table, Tingha and Emmaville (formerly known as Vegetable Creek) first appeared in a census enumeration in 1881, with populations respectively of 2,424 and 2,670. Bundarra, Deepwater, and Drake, date in the history of population statistics from 1891, and Guyra, Howell, and Bora Creek from 1901. Hillgrove is referred to in a preceding paragraph.

The unincorporated towns and villages of the Division of the Northern Tableland lost 921 during the interval between the census periods 1891 and 1901; but the loss was apparent only, for Hillgrove was withdrawn from the category on being proclaimed as a borough on the 20th September, 1899. Leaving Hillgrove, therefore, out of the calculation, the increase in population in "Localities" for the census period 1911 over towns and villages, so described, for 1891 was 5,041, the accretion for 1901 being 1,491, and for 1911 as high as 3,551. The character of most of these towns or "Localities" is that of mining-camps of more or less permanency. They exhibit, too, the fluctuations in population to which mining-camps are subject. The decline in the population of the municipal township of Hillgrove from that of its unincorporated state is repeated in the example afforded by Drake. Bora Creek emerged from obscurity for a single census, to fall back into oblivion.

The tin-dredging town of Tingha, situated on Cope's Creek (a tributary of the Gwydir), appears with more than double its inhabitants from one census to its successor, its progress of accretion being checked in 1901 by a decline of 440 persons, the population falling from 1,167 to 727, and rising to 1,938, at the three census periods respectively of 1891, 1901, and 1911. Emmaville, the centre of a district rich in mineral production, and yielding stream and lode tin in great quantities, besides silver, emeralds, rubies, and wolfram, exhibits the remarkable coincidence of a numerically identical population for two census periods in succession, and then an increase at a bound of 607 inhabitants. The gold, silver and copper producing centre of Drake may at the next census show a similar rapid increase in population, as a result due absolutely to the sporadic nature of mineralogical deposits and discoveries, and to the nomadic type of workers thereby called into existence.

Howell, a silver-mining township, rich in the production of silver, lead, tin, copper, and diamonds, almost doubled its population in the ten years intervening between the census periods 1901 and 1911; and Deepwater, which is supported by agriculture and pastoral pursuits, besides the business of tin-winning, mainly by means of dredging the sands of Glen Creek, a tributary of the Dumaresq River, increased the number of its inhabitants from 423 in 1901 to 710 in 1911, an advance in number of 287 persons.

Bundarra is an agricultural and pastoral centre, situated on a river of the same name, and constituting one of the tributaries of the Gwydir. Its gradual progress is characteristic of the well-established country township, with its limited, but imperatively essential, civic services and locally required administrative offices. Guyra is also the centre of an agricultural and pastoral district, in which potato-growing, wool production, and the cultivation of market fruits, are extensively carried on. Guyra, which stands on the Great Northern Trunk line, is however like the municipal town of Tenterfield, the headquarters of the shire bearing the same name, and its advance of population from 547 in 1901 to 1,309 in 1911, as given in the census of "Localities," cannot be accepted without questioning its accuracy. The duplication of names in the designation of entities, geographically different, is a constant source of confusion.

For a clearer appreciation of the relativity of the elements of population in the Division, the following table is given, and shows the constitution of the people at the three census periods of 1891, 1901, and 1911, according to municipal and non-municipal urban and to rural sections in each county:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Gough ...	Municipal ...	5,066	...	6,211	...	8,638	...
	Non-municipal	978	...	978	...	2,295	...
	Total ...	6,044	6,953	7,189	6,809	10,933	6,512
Sandon ...	Municipal ...	4,645	...	7,204	...	7,338	...
	Non-municipal	2,412	...	—	..	—	...
	Total ...	7,057	5,863	7,204	7,142	7,338	6,442
Hardinge ...	Non-municipal	1,167	3,039	1,844	4,589	4,891	2,249
Clive ...	Municipal ...	2,477	1,590	2,604	1,849	2,792	2,893
Vernon ...	"	864	1,723	980	1,675	1,334	1,783
Drake ...	Non-municipal	—	1,245	814	529	—	1,173
Remainder of Division.	.....	—	3,416	—	3,450	—	5,841
Grand Total ...		17,609	23,829	20,635	26,043	27,288	26,893

Of the municipal towns, few had a population density of a really urban character. Uralla, in the county of Sandon, with a population of only 1,019, had at the census of 1911 a density of 3·18 persons per acre, but the total area of the municipality was half a square mile. Armidale, with a population of 4,738, and an area of 2,080 acres, had a density of 2·28 persons per acre. Hillgrove, of nearly similar dimensions and a population of 1,581, came third with a density of 0·71 persons per acre. Inverell, with an area of 10,370 acres and a population of 4,549, had a density of 0·44 persons per acre; Glen Innes, the most populous town in the Division, with an area of 25,600 acres and a population of 4,089, a density of 0·16 per acre; Tenterfield, with an area of 29,440 acres and a population of 2,792, a density of 0·09 per acre, and Walcha, with an area of 18,880 acres and a population of 1,334, a density of 0·07 per acre.

Outside its purely administrative quarters a country town is scattered and rural, and exclusive of a few hotels, banks, shops, general stores, etc., it is devoted within municipal boundaries to the pursuits of primary production. The municipal towns gained 3,947 inhabitants during the first decade and 3,103 during the second, or 7,050 for the whole period extending from the census of 1891 to that of 1911. The non-municipal towns lost, mainly through the creation of Hillgrove into a borough, 921 inhabitants during the first decade, but gained 3,550 during the second, or a gain of 2,629 for the twenty years under review. The total apparent gain of urban centres, municipal and non-municipal, was for the first decade 3,056, for the second 6,653, and for the 20 years under review 9,679.

According to the foregoing table the rural population in the county of Gough had declined during the whole period; that of Sandon made an appreciable increase during the first decade, but declined during the second; that of Hardinge increased during the first decade, but declined during the second, and showed an actual loss on the twenty years; Vernon declined during the first decade, but recovered during the second; Drake concentrated most of its population in the mining centre of the same name, but the population of the township had fallen from 814 in the census year of 1901 to 347 in 1911; Clarke, Clive, Buller, and Gresham added to their rural populations in the twenty years under review, though Buller declined slightly during the first decade. Of the four counties last-mentioned, Clive, which contained the municipality of Tenterfield, was the only one possessing an urban centre of the recognised standard.

The subjoined statement shows the constitution of the population in its urban and rural elements, for the three census periods of 1891, 1901, and 1911:—

	1891.	1901.	1911.
Municipalities	13,052	16,999	20,102
Unincorporated Towns and Villages (1891 and 1901), and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards ...	4,557	3,636	7,186
Total, Quasi-urban	17,609	20,635	27,288
Remainder of Division (Rural)	23,829	26,043	26,893
Total, Division	41,438	46,678	54,181

The foregoing statement shows that the rural population of the Division exceeded the urban in 1891 by 6,220, and in 1901 by 5,408; but in 1911 the urban exceeded the rural by 395, which is equivalent to an actual loss of 5,803 for the decade, or 6,615 for the twenty years. The county of Gough, which shows the highest gain of population of any county in the Division,

amounting in twenty years to 4,448, shows also the most severe apparent decline in the rural element during the same period, the urban being to the latter, for each of three census periods respectively, as 0·87, 1·06, and 1·68 to one. But the word "apparent" is used advisedly, for the over-statement of municipal habitancy, as shown in the table of the population of "Localities," of persons living in municipalities of defined areas, was as high as 23·2 per cent.; besides which, an examination of the census of occupations for the year 1911 largely discounts the apparent urban proportion of the inhabitants in this Division.

Of the total population, namely, 54,181, the breadwinning classes, inclusive of 270 independents, numbered 21,200, of which total 10,785, or more than half (including 212 females) were primary producers. The dependents on natural guardians numbered 32,477, or a proportion of 1·53 to one of the total number of breadwinners of both sexes, and a total of 16,507 to the class of primary producers.

The number of females engaged in agriculture and pastoral pursuits as recorded at the census enumeration of 1911 was respectively 61 and 147, or a total of 208. The police returns for the year ended the 31st March, 1911, showed 266 females engaged in agriculture, and 997 in dairying, or a total of 1,263. The census classification included, therefore, as dependents on natural guardians, 205 females partially engaged in agriculture, and 850 females partially engaged in dairying, or a total of 1,055 females partially engaged in these two branches of primary production, and partially in the discharge of domestic duties.

There were at the last census throughout the Division of the Northern Tableland 1,567 females engaged in domestic service and attendance out of a total of 21,200 breadwinners, or a proportion of 7·39 per cent. On this basis, the number of female domestics domiciled with primary producers would total 797. The total number of the class of primary producers, together with their dependents and domestics, was, therefore, 28,089; or 1,196 persons in excess of the rural and 801 in excess of the urban population as exhibited in the census of "Localities" for the year 1911.

The constitution of the population of the Division according to the census of the occupations of the people for 1911, was as follows:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	18,151	2,935	4,071	3,086	481	10,573	3,397	1,715	963	898	456	206	7,678
Females ..	3,049	61	147	3	1	212	398	244	44	520	1,567	64	2,837
Total ..	21,200	2,996	4,218	3,089	482	10,785	3,795	1,959	947	1,418	2,026	270	10,415

The primary producers, representing the winners of raw material in the animal, vegetable, and mineral kingdoms, are strikingly predominant in the Division, the industrial class coming next, but far below the total of its predecessor. Then follows the domestic class, slightly above the commercial—an attestation to the general prosperity of the Division. The professional class is fifth in order of numerical importance, and that of transport and communication last.

Of those engaged in transport and communication, the railway employees numbered only 294 for the whole Division, and those engaged in traffic on roads 442. Persons engaged in the manufacture of foods, etc., numbered 295; and in construction, inclusive of railways, 1,089. In the above statement 482 persons, including one female, are listed as "Other" primary producers. These comprised 444 engaged in forestry, 26 in trapping and hunting, and 12 in the conservation and supply of water.

The subjoined statement shows the relation of primary producers to the other classes of breadwinners, including 270 persons classed as independents :—

Class—Primary Producers	...	...	...	...	...	10,785
„ Industrial	...	...	...	...	...	3,795
„ Domestic	...	...	...	...	...	2,026
„ Commercial	...	...	...	...	...	1,959
„ Professional	...	...	...	...	...	1,418
„ Transport and Communication	...	...	...	...	...	947
„ Independents	...	...	...	...	...	270
Total						21,200

The Division of the Northern Tableland, for the purposes of Local Government, is divided into the following seven shires, which, with their respective headquarters, are as follow :—

Shires.	Headquarters.	Shires.	Headquarters.
Tenterfield	Tenterfield.	Gostwyck	Uralla.
Macintyre (southern part)	Inverell.	Dumaresq	Armidale.
Severn	Glen Innes.	Apsley (western part)	Walcha.
Guyra	Guyra.		

Tenterfield and Guyra, the first a municipal district and the second an unincorporated township, are the headquarters respectively of shires of similar designations; Inverell (shire-centre of Macintyre), Glen Innes (of Severn), Uralla (of Gostwyck), Armidale (of Dumaresq), and Walcha (of Apsley), are all municipalities.

THE DIVISION OF THE CENTRAL TABLELAND.

The Division of the Central Tableland is, outside the metropolitan county of Cumberland, the oldest settled part of New South Wales. This portion of the State is the scene also of the early gold-mining episodes, which made famous, names like Ophir, Lewis Ponds, Summer Hill Creek, Tambaroora, Sofala, and those of other places in the Wellington and Bathurst Districts. It was the first part of the hinterland to reward the courage and the enterprise of the explorer and the pioneer; and it was the first pasturage won after the passage of the Blue Mountains in 1815, as Bathurst itself was the first settlement to be planted by the Government on the plains which were so long shut off from exploitation by the apparently impassable escarpment of the Great Dividing Range.

This central plateau was no less the theatre of many a bushranging drama, and traditions still linger in the district of the deeds of many a notorious outlaw who established his reign of terror, and pervaded the region in the days when immunity from justice was possible, from lack of means of inter-communication, and before the railway and the telegraph had made the crime of robbery under arms practically impossible.

The Division of the Central Tableland is bounded on the north by the mountains of the Warrumbungle and Liverpool Ranges, from Pandora's

Pass to Nany Rock ; on the south by the Upper Lachlan and the Crookwell Rivers, thence by a line running south-east to the Cullarin Range, thence north-east, south, and east along the range to Mount Macalister, thence north-east of Yalbraith and the western watershed of the Guineacoor Creek ; on the east by the Krui River, the Goulburn River and its affluents, Widdin Brook and Red Creek, by a chain running south and south-east from Mount Baker to Mount Coricudgy in the Main Dividing Range, thence to Mount Boonboourwa, thence to Mount Coorongooaba, and thence to the head-waters of the Capertee River, and by the Capertee, the Colo, the Hawkesbury, the Nepean, the Warragamba, and the Wollondilly Rivers, and the Guineacoor Creek to Yalbraith, a little hamlet at the north-eastern extremity of the Cullarin Range ; and on the west, from Pandora's Pass in the Warrumbungle Range, by the Coolaburragundy River to its junction with the Talbragar, thence by a chain running south and south-west from the township of Dunedoo to Emilguiley Mountain, thence westerly and north-westerly to the township of Bodangora, thence south-west and south-by-west of the towns of Montefiores and Wellington, and by sections of the Curra and Newrea Creeks, the Bell River, Molong Creek, Cargo Ridge, the Canoblas, Lapstone Range, Panuara Rivulet, and the Belubula and Upper Lachlan Rivers as far south as Battery Ridge.

The Division contains eight of Mitchell's "Nineteen Settled Counties," namely, Bligh, Wellington, Phillip, Roxburgh, Cook, Bathurst, Georgiana, and Westmoreland. The following table shows the population of the counties constituting the Division, together with density of persons per square mile, at the census periods under review :—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Bathurst	1,982	30,106	32,744	30,952	15·19	16·52	15·62
Cook	1,735	14,782	17,657	27,886	8·52	10·18	16·07
Wellington	1,921	16,428	19,926	21,669	8·55	10·37	11·28
Roxburgh	1,579	9,475	9,030	9,459	6·00	5·72	5·99
Phillip	1,617	5,690	6,268	6,131	3·52	3·88	3·79
Georgiana	1,923	6,102	6,887	5,844	3·17	3·58	3·04
Bligh	1,672	3,268	4,700	4,664	1·95	2·81	2·79
Westmoreland	1,616	3,964	3,974	4,624	2·45	2·46	2·86
Total	14,045	89,815	101,186	111,229	6·39	7·20	7·92

Among the eight counties contained within the boundaries of this Division, two, Cook and Bathurst, stand fifth and sixth in order of density of population of all the counties in the State, coming next after the county of Camden, in the Division of the South Coast. The increase in population for the Central Tableland has been very marked, but it is distinctly sectional, the county of Cook having advanced rapidly owing to its close neighbourhood to the metropolis, to its mineral deposits, and to the establishment of manufactures in the mineralised districts ; while other counties have advanced but slowly, some have remained stationary, and some have actually declined.

During the period between the census years of 1891 and 1901 the whole Division gained 11,371, and the county of Cook 2,875 inhabitants. During the period between 1901 and 1911 the Division gained 10,043 and the county of Cook 10,229 inhabitants. The Division's gain for twenty years was 21,414, and that of the county of Cook 13,104. During the first decade the county of Bathurst gained 2,638 persons, and during the second lost

1,792, the total gained for the twenty-years' period being but 846. Whilst the population density of the county of Cook ranged from 8·52 to 10·18 and 16·07 persons per square mile, that of the county of Bathurst remained almost stationary, the corresponding periodic figures being 15·19, 16·52, and 15·62.

The county of Wellington increased by 3,498 during the first decade and by 1,743 during the second—the total increase being 5,241 for the twenty-years' period, the density of population ranging from 8·55 to 10·37, and to 11·28 persons per square mile.

Of the remaining five counties of the Division, only Westmoreland had a continuous increase of population—for the first decade of 10 persons and for the second of 650, the density of persons per square mile ranging from 2·45 to 2·86 during the twenty-years' period. The county of Roxburgh remained practically stationary, for though it decreased from 9,475 in 1891 to 9,030 in 1901, its population in 1911 numbered 9,459—its density fluctuating from 6 persons per square mile to 5·99 at the last-mentioned year. The county of Phillip gained in population by 578 during the first and lost by 137 during the second decade, thus showing an accretion of inhabitants over a period of twenty years of only 441, while the density of persons per square mile rose from 3·52 to 3·88, and subsequently fell to 3·79. Georgiana added 785 to its population for the first decade and lost 1,043 during the second, the declension for twenty years amounting to 258, and the population density, after rising from 3·17 to 3·58, declining to 3·04. The county of Bligh gained 1,432 inhabitants during the first and lost 36 during the second decade, the total gain for twenty years being 1,396, and the density of persons per square mile respectively 1·95, 2·81, and 2·79 for each successive decennial period.

The subjoined table shows the population of the municipalities of the Division of the Central Tableland for the census periods of 1891, 1901, and 1911 :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Bathurst	Bathurst	9,162	9,223	8,575
Lithgow	Cook	3,865	5,268	8,196
Katoomba	"	1,592	2,270	4,923
Orange	Bathurst and Wellington	3,237	3,930	4,220
Wellington	Wellington	1,545	2,984	3,958
Cowra	Bathurst and Forbes	1,546	1,811	3,271
Mudgee	Wellington	2,410	2,789	2,942
Cudgegong	Phillip and Wellington	2,519	2,985	2,678
East Orange	Bathurst and Wellington	1,827	2,341	2,501
Gulgong	Phillip	1,283	1,579	1,736
Blayney	Bathurst	1,254	1,529	1,435
Carcoar	"	562	578	535
*Hill End	Wellington	814	643	...
Total, Municipalities		31,616	37,990	44,970

*Hill End became part of the shire of Turon on the 17th June, 1903.

Bathurst, which dates from 1815 as a Government centre, must have figured in many periodical musters, the records of which are no longer available, but its population was recorded in 1821 as 287 persons, in 1822 as 392, and in 1823 as 708. At the first regular census, taken in 1828, Bathurst and Wellington Valley were enumerated together, and the population recorded was 2,072 persons, and at the next quinquennial census (that

of 1833) the joint population was 3,454. At the enumeration of 1836, Bathurst appeared separately, with a population of 1,729, which declined to 720 at the census of 1841. The population of the "City of the Plains" in 1846 was 1,883, in 1851 it was 2,252, in 1856 it was 3,249, in 1861 it was 4,042, in 1871 (then a proclaimed borough) it was 5,030, in 1881 it was 7,221, and in 1891 it was 9,162. South Bathurst in 1891 and 1901 was accredited with 278 and 355 inhabitants respectively, but it does not appear in the census of "Localities" for 1911. Bathurst was incorporated on the 13th November, 1862.

Lithgow made a first appearance in a census enumeration in 1881, with a population of 2,112, and was proclaimed a borough on the 3rd June, 1889. Katoomba was proclaimed a municipal district on the 13th October, 1889, and made its first appearance in a census enumeration in 1891 with a population of 1,592.

Orange first appeared in a census enumeration in 1851 with a population of 28 persons, which in 1856 had risen to 236. It is interesting to quote from the notes on the results of the census of 1851, the following:—"Several towns, possessing only a trifling population, are inserted in Tables 33, 40, and 44 in consequence of their having been formerly so shown, or for the sake of future comparison of their present state with their expected advancement." The population of Orange in 1861 was 581, in 1871 it was 1,456, and in 1881 it was 2,701. Orange was incorporated as a borough on the 9th January, 1860, and East Orange, which first appeared in a census enumeration in 1891, with a population of 1,827 persons, was proclaimed a borough on the 29th March, 1888.

Wellington first appeared in a census enumeration in 1851, with a population of 29 persons, in 1856 it had risen to 228, but fell in 1861 to 175, in 1871 it was 621, and in 1881 it was 1,563, having been proclaimed a municipal district on the 13th May, 1879. Cowra first appeared in a census enumeration in 1861 with a population of 193 persons, in 1871 it was 265, and in 1881 it was 628. Cowra was proclaimed a borough on the 8th May, 1888.

Mudgee made its first appearance in a census enumeration in 1846, with a population of 131 persons, in 1851 it was 292, in 1856 it was 803, in 1861 it was 1,507, in 1871 it was 1,786, and in 1881 it was 2,492. Mudgee was proclaimed a borough on the 21st February, 1860. Cudgegong, which encloses Mudgee, was proclaimed a borough on the 20th July, 1860. It is practically an incorporated agricultural and pastoral district, and first appeared in a census enumeration in 1861, with a population of 1,595 persons, which in 1871 had increased to 2,342, and in 1881 to 2,533.

Gulgong made its first appearance in a census enumeration in 1871, with a population of 3,228 persons. On the 5th February, 1876, this prosperous and progressive goldfield township was proclaimed a municipal district, and its population in 1881 numbered 1,642. Blayney first appeared in a census enumeration in 1871, with a population of 122 persons, which by 1881 had increased to 720. Blayney was proclaimed a municipal district on the 31st October, 1882.

Carcoar was an outpost of settlement when it made its first appearance in the census of 1846 with a population of 73 persons, which in 1851 had increased to 303, in 1856 to 364, in 1861 to 374, in 1871 to 395, and in 1881 to 540, when it had been incorporated by proclamation as a municipal district on the 11th November, 1878. Hill End, a goldfield centre, first appeared in a census enumeration in 1871 with a population of 716 persons, by 1881 it had increased to 1,223, subsequent to its incorporation as a

borough on the 6th August, 1873. The history of the habitancy of Hill End has been recounted in another part of this chapter.

During the twenty years intervening between the censuses of 1891 and 1911 the municipal population of the Division increased by 13,354; the accretion for the first decade being 6,374 and for the second 6,980, notwithstanding the fact that Hill End had ceased to possess separate existence as a municipality and had become absorbed in the shire of Turon. Cudgegong, the largest municipality in the State, remained almost stationary, for though it gained 466 persons in the first decade, it lost 307 in the second; its area embraces 122,880 acres, and its population density did not exceed, at any of the periods under review, 0.02 per acre, thus showing the average settlement as fifty acres per person.

The historic municipality of Bathurst has seen its first century, but its progress has hardly kept pace with its longevity, notwithstanding its unique position as the centre of a rich mineral district, as well as of fertile farm-lands, huge pastoral properties, and marble quarries. Its population remained stationary during the first decade; its loss between 1891 and 1911 amounted to 587 persons, and Lithgow, its mountain rival, must soon overtake it. One of the causes of Bathurst's stagnation is to be found in the fact that it is an old settlement, another that the aggregation of large estates does not conduce to enterprise. Land in the vicinity of the town is practically unobtainable, and the rising population goes farther afield to secure the advantages of freehold tenure and a wider scope for development. Mining interests impart a certain activity, but when these languish the town languishes with them, and exhibits, not the symptoms of decay, but those of a somnolent stability.

Lithgow is a mining and manufacturing municipal town on the Great Western Trunk Railway line, centrally situated in a valley of the cordillera of the Blue Mountains. It possesses a number of collieries, extensive iron-works, potteries, breweries, and tweed manufacturing mills. With the aid of its great blast-furnaces it produces iron and steel from native ores, and it is the site of the Commonwealth Small Arms Factory. In 1891 its population numbered 3,865, and it had gained only 1,403 persons by 1901, but at the census of 1911 it had increased by 2,928, and since the beginning of the great war in Europe its progress in population and the development of its resources and industries have been continuous and expanding.

The "City of the Plains" has an advantage over its rival in the Mountains, inasmuch as its density of 3.35 persons per acre in its ample area of 2,560 acres, and its fine block of administrative buildings and other public edifices, contribute more to its urban aspect than do Lithgow's mills and factories, distributed over an area of 4,192 acres, with a population density of 1.95 persons per acre.

Katoomba owes its rapid progress as a municipal centre in the heart of the Blue Mountains to its reputation as a sanatorium. For the first decade under review its advance was slow, its accretion of population amounting to 678; but during the second decade it increased by 2,653, or a total for twenty years of 3,331, and its density of population has grown from 0.21 to 0.31, and to 0.66 during the two periods—but it is still rather rural than urban.

Orange, a railway junction on the Great Western line, and the centre of an extensive agricultural country, from which the town's steam flour-mills, the largest in the State, are supplied with locally-grown grain, has advanced but slowly when consideration is given to its important outpost position. For the whole twenty years Orange has increased its municipal population by only 983 inhabitants, the increment for the first decade being 753 and for the

second 230. Its urban character is however well marked, for contained within an area of one square mile, its density of population amounts to 6·59 persons, which is slightly in advance of that of the metropolitan area.

Wellington, like Bathurst, Blayney, Carcoar, Orange, Gulgong, and Mudgee, is as much a mining as an agricultural or a pastoral centre, but its progress does not appear to have kept pace with its importance. Its total gain in population over the twenty years under review was 2,413, that for the first decade being 1,439 and for the second 974, while its population density always fell below the "one person per acre" standard, being for the three census periods of 1891, 1901, and 1911 respectively, 0·34, 0·67 and 0·88.

The pastoral and agricultural municipality of Cowra, which extends a little into the county of Forbes, in the Division of the Central Western Slope, has more than doubled its population since the census of 1891, when it was 1,546; in 1901 it had increased by only 265 persons, but in 1911 by 1,460, its density of population rising from 0·27 persons per acre to 0·32, and to 0·58. Mudgee, a municipality on the Cudgegong River, and entirely surrounded by the municipality of Cudgegong, contains an area of 749 acres, or a little over a square mile, and its growth is thereby circumscribed to the benefit of its urban appearance, the density of population for the three census periods under review being respectively, 3·22, 3·72 and 3·93 persons per acre. The population of Mudgee had increased during twenty years by 532 persons—for the first decade by 379 and for the second by 153.

East Orange is an extension of the parent municipality of Orange, its area of 685 acres being slightly over a square mile. Its population density for the three census periods under review was respectively 2·67, 3·42 and 3·65 persons per acre. The population of East Orange had increased during the twenty years by 674, the accretion for the first decade being 514 and for the second 160. Gulgong, about 18 miles to the north of Mudgee, still preserves the tradition of its origin, inasmuch as gold continues to be won in the reef-workings and fossicking occasionally reaps a sporadic reward, though the old-time flats, rich in alluvial deposits, are now covered with the crops of agriculturists and are grazed upon by sheep. During the twenty years under review Gulgong had little more than maintained its position, its gain for the period being 453 persons, of which number 296 formed the increment for the first decade and 157 for the second, while the correlative density was as low as 0·06, 0·08, and 0·08, for the three respective census periods of 1891, 1901, and 1911, throughout a municipal area containing 20,480 acres.

Blayney is a municipal township of mixed activities. It possesses copper-mines operated by a smelting syndicate, freezing works for the treatment of rabbits trapped in the surrounding district, and a butter factory for dealing with the staple product of a dairying region; also it is an important railway junction. But, all these advantages notwithstanding, the progress of Blayney is disappointing. It gained only 275 inhabitants in the first decade under review and had an actual loss of 94 during the second, which reduced its total gain over twenty years to 181 persons, while its density of population per acre, after rising from 0·41 in 1891 to 0·50 in 1901, declined to 0·47 in 1911.

Carcoar, on the Belubula River, is the centre of agricultural, pastoral, and dairy-farming activities, and of mineral lands containing varied deposits, particularly of iron-ore; in the surrounding district cereals are raised in large quantities, but the municipal town itself is languishing. Its limited area is only 429 acres, nevertheless its density of persons per acre, after rising from 1·31 in 1891 to 1·35 in 1901, declined to 1·25 in 1911; but the actual gain in population during the first decade was only 16 persons,

and the actual loss during the second only 43. Carcoar probably provides, however, as a township, everything required by the large district of which it is the centre.

Hill End, an old-time goldfield, became a municipality on the 6th August, 1873, and its population at the census of 1881 was 1,223. In 1891 the municipality contained 814 inhabitants, in 1901 the population had fallen to 643, and on the 17th June, 1908, it ceased to exist as an incorporated individual area and became merged in the shire of Turon. But if some municipalities in the Division have declined, remained stationary, or advanced but little, a number of "Localities" (not otherwise defined) have emerged from obscurity, and others already known have made rapid progress.

The following table shows the population of towns and villages for the census periods of 1891 and 1901, and of "Localities" (not otherwise defined) for the census of 1911:—

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Portland ..	Roxburgh ...	212	...	...	543	2,370
Newnes ..	Cook ...	—	—	—	—	1,652
Millthorpe ...	Bathurst ...	498	...	...	994	1,390
Leura ...	Cook ...	—	—	—	—	1,363
Blackheath ...	" ...	...	...	771	734	1,318
Woodstock ...	Bathurst ...	133	490	...	...	908
Yerranderie ...	Westmoreland ...	—	100	—	—	840
Rylstone ..	Phillip and Roxburgh.	...	499	592	...	765
Wentworth Falls.	Cook ...	176	344	...	...	753
Springwood ...	" ...	69	...	...	618	724
Wallerawang ...	" ...	...	...	507	538	696
Bodangora ...	Bligh ...	—	...	—	871	684
Lawson ...	Cook ...	212	...	...	502	678
Emu Plains ...	" ...	...	...	642	610	622
Mort's Estate ...	" ...	—	—	—	—	608
Ober n ..	Westmoreland ...	245	353	...	...	586
Kelso... ..	Roxburgh ...	...	...	689	591	553
Hartley ...	Cook ...	...	...	797	604	552
Kurrajong ..	" ...	361	450	...	...	550
Stuart Town...	Wellington ...	...	...	563	587	547
Wilberforce ...	Cook ...	482	...	...	810	523
						18,682
						Under 500.
*Hill End ...	Wellington ...	(m)	(m)	(m)	(m)	464
Lucknow ...	Bathurst ...	310	...	...	1,077	459
Burruga ...	Georgiana ...	...	...	528	954	472
Wattle Flat...	Roxburgh ...	...	...	539	671	415
Mt. Victoria...	Cook ...	...	...	664	556	476
Sunny Corner	Roxburgh ...	...	...	1,677	515	260
Neville ...	Bathurst ...	—	...	...	500	376
Lewis Ponds...	" ...	...	293	747	...	241
South Bathurst...	" ...	278	355	...	...	—
North Rich- mond.	Cook ...	214	158	...	...	—
Wellington Flat.	Wellington ...	—	98	—	...	—
Cudgegong (portion unin- corporated).	" ...	53	59	...	...	—
Total, over 500 inhabitants ...				8,716	12,275	18,682

*Hill End was incorporated as a borough, and included in Turon Shire, 17th June, 1903.

m Denotes Municipality.

Portland first appeared in a census enumeration in 1891; Newnes in 1911; Millthorpe, Blackheath, Woodstock, Wentworth Falls, Springwood, Lawson, Kurrajong, Stuart Town, Lucknow, Burruga, Wattle Flat, Mount Victoria, Sunny Corner, Lewis Ponds, South Bathurst, and North Richmond in 1891; Leura and Mort's Estate in 1911; Yerranderie, Bodangora, Neville, and Wellington Flat in 1901; Rylstone and Wilberforce in 1861; Wallerawang and Oberon in 1881; Emu Plains in 1851; and Kelso and Hartley in 1841.

After Bathurst, Kelso and Hartley are the two oldest established settlements in the Central Plateau. In 1841 the population of Kelso, which is situated on the left bank of the Macquarie River opposite Bathurst, was 453 persons; in 1846 it was 464, in 1851 it was 339, in 1856 it was 343, in 1861 it was 357, in 1871 it was 485, and in 1881 it was 546. In 1841 the population of Hartley was 39 persons, in 1846 it was 62, in 1851 it was 88, in 1856 it was 128, in 1861 it was (as Hartley Vale) 118, in 1871 it was 70, and in 1881 it was not recorded, though at the succeeding census it was listed as 797.

In 1851 Emu Plains appeared in the census records simply as Emu, with a population of 61 persons, in 1856 it was 125, in 1861 it was 107, in 1871 it was 136, and in 1881 it was 530. In 1861 Rylstone was accredited with a population of 135 persons, in 1871 with 239, and in 1881 with 333. In 1861 Wilberforce was accredited with a population of 189 persons, in 1871 with 375, and in 1881 with 356. In 1881 Wallerawang appeared in a census enumeration with a population of 2,307 persons; and Oberon with a population of 102 persons.

In the foregoing table, South Bathurst, North Richmond, Wellington Flat, and the unincorporated portion of Cudgegong are included for their relationship to the important municipalities of Bathurst, Richmond (in the metropolitan county of Cumberland), Wellington, and Cudgegong.

Like the municipal town of Katoomba, the mountain villages in the county of Cook owe a large measure of their advance in population to the salubrity of the climate and to their reputation as sanatoria. They are pleasure and health resorts primarily, and residential townships for metropolitan workers secondarily, and their settled inhabitants are engaged mainly in ministering to the wants of tourists and convalescents. Leura, one such sanatorium in the Blue Mountains, and only 64 miles from Sydney, appeared for the first time in a census enumeration in 1911, and was accredited with possessing 1,363 inhabitants.

Blackheath is much older, and has apparently almost doubled its population between the census periods of 1901 and 1911. Wentworth Falls, in the same space of time, more than doubled its population, having increased from 344 to 753. Springwood, which had only 69 inhabitants in 1891, appeared as a rising township with 724 in 1911.

The progress of mountain townships like Wallerawang and Hartley undoubtedly would have been much greater but for the close neighbourhood of the mining and manufacturing, municipal and railway town of Lithgow, which is absorbing, transforming, and re-converting the resources of an extensive region; for these places are situated in a country rich in coal-deposits, oil-shale, iron-ore, and limestone, and in a less degree, silver, gold, cobalt, and manganese. Wallerawang added to its population during the first decade only 31 persons and during the second 158, or 189 for the whole period of twenty years. Hartley actually declined continuously, losing nearly a third of its inhabitants between the census periods 1891 and 1911.

Newnes came into existence through the discovery and exploitation of a deposit of oil-bearing shale, but it has declined in population since the census of 1911. Kurrajong, supported mainly by market-gardens, orchards, and orangeries, gained 89 inhabitants for the first decade and 100 in the

second, but it is not so well known as a tourist resort and sanatorium as some of the others mentioned. Lawson gained 276 inhabitants during the second decade; but the township of Emu Plains, at the foot of the Blue Mountains, on the Nepean River, has remained stationary, with evidences of slow decay.

Mort's Estate is an industrial centre without any urban status. Wilberforce, an old-established hamlet on the Hawkesbury River, dating from the early days of settlement, and given over to small farming and intensive culture of the soil, was accredited in 1901 with 810 inhabitants; but according to the census of "Localities" for 1911 its population is now only 523. Mount Victoria (the Mount Vittoria of Major-General Mitchell) is rapidly declining, owing probably to the rise of more favoured or more conveniently situated mountain resorts.

A few miles from Wallerawang, the unincorporated township of Portland, situated centrally in a limestone country, employs a considerable number of persons in the preparation of cement. The population was but 212 in 1891, and 543 in 1901; but from the latter year to the taking of the census of 1911 it had gained 1,827 additional inhabitants. Rylstone, another township in the limestone region of the county of Roxburgh, has not been so progressive. Although the district around is not only highly mineralised, but is famed also for its studs and herds, the growth of fine wool, the breeding of prime cattle, and much miscellaneous agricultural activity, yet Rylstone lost 193 persons from its population in the first decade and gained only 266 in the second, or a total accretion of 173 for twenty years.

Kelso, also in the county of Roxburgh, is simply the extension of the town of Bathurst on the eastern bank of the Macquarie, a suburban township on the other side of the river. Wattle Flat and Sunny Corner are two gold-mining townships of considerable reputation in the past. The first is still worked with profitable results but the prosperity of the second has almost disappeared. In 1891 Sunny Corner was accredited with a population of 1,677; at the census of 1911 it had declined to 260.

Stuart Town, with a population which for twenty years remained practically stationary, is one of the oldest mining townships in the State, and auriferous deposits extend over the considerable area of which it is the centre. Other mining-centres than those already mentioned in this Division are Burruga, Canowindra, Oberon, Rockley, Trunkey, Tuena, Hargraves, Windeyer, and Lewis Ponds; and there are few places on the Central Tableland where minerals cannot be found.

Millthorpe, a progressive unincorporated railway township, depends to no little extent on the industry of gold-mining, notwithstanding its profitable cultivation of wheat, hay, and potatoes. Millthorpe's apparent increase of population for twenty years was 892 persons, but in 1891 it had only 498 inhabitants.

Woodstock is a railway township in a district well equipped in the primary industries of agriculture and stock-raising, within twelve miles of the municipal town of Cowra, where granite capable of taking a high polish is abundant. Woodstock had the small population of 133 at the census of 1891; in 1901 it had risen to 490, and at the census of 1911 to 908, thus almost doubling the number of its inhabitants within a decade. Lucknow is now more agricultural than mining in the character of its activities, but its population, which fell to 459 in 1911, sprang suddenly from 310 (in 1891) to 1,077 (in 1901) as the result of the discovery of a rich deposit of gold.

Burruga, in the county of Georgiana, is similarly experienced in sudden growth and rapid decline, attributable to like reasons. Neville, a township in the county of Bathurst, devoted now and formerly to farming and grazing, experienced an abrupt increment in population to

wards the close of the nineteenth century through a gold discovery in its close neighbourhood.

Lewis Ponds was one of the famous goldfields of a past epoch, but it has suffered a great declension, covering a number of years. In 1891 it still retained a population numbering 747 persons, but at the census following this number was reduced to 293, and at that of 1911 to 241. Yerranderie, in the county of Westmoreland, is officially included in the Southern Mining District of the State. Unrepresented in the census of 891, and shown in that of 1901 with a population numbering but 100, it is listed in the census of "Localities" for 1911 with a population of 840 persons, the staple support of whom is the industry of silver-winning.

Oberon, another township in the county of Westmoreland, is a quartz-mining centre, in a district to some extent agricultural. But it is also a resort of tourists, for it is a place of call on the route to the famous Jenolan Caves, which constitute the limestone wonderland of Eastern Australia. Near Oberon is Mount Werong, where was discovered the largest diamond (weighing over 200 carats) ever won in Australia. Oberon is, however, a small place, with a population at the census of 1911 of 586—an increase of 233 on the previous enumeration.

Bodangora, in the county of Bligh, is a mining town with large crushing and cyanide works, and rich agricultural land which runs right up to the reef; nevertheless, the place was declining in population at the census of 1911: Non-existent in the enumeration of 1891, it was credited with 871 inhabitants in 1901—a population which suffered the loss of 187 persons during the succeeding decade. For the Division of the Central Tableland the overstatement of municipal habitancy, as shown in the table of the population of "Localities" for the census year 1911, of persons living within municipalities of defined areas, was 14.5 per cent.—a proportion which would affect to some extent the accuracy of the figures of population collected for "Localities" (otherwise undefined).

The subjoined table exhibits the constitution of the population with respect to its municipal and non-municipal urban and its rural elements throughout the Division for the three census periods under review:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Bathurst ...	Municipal ...	14,351	...	15,482	...	16,317	...
	Non-Municipal	747	...	2,571	...	2,298	...
	Total ...	15,098	15,008	18,053	14,691	18,615	12,337
Cook ...	Municipal ...	5,457	...	7,538	...	13,119	...
	Non-Municipal	3,381	...	4,972	...	10,039	...
	Total ...	8,838	5,944	12,510	5,147	23,158	4,728
Wellington ...	Municipal ...	10,525	...	13,391	...	13,798	...
	Non-Municipal	563	...	587	...	547	...
	Total ...	11,088	5,340	13,978	5,948	14,345	7,324
Roxburgh ...	Non-Municipal	3,497	5,978	2,320	6,710	3,688	5,771
Phillip ...	Municipal ...	1,283	4,407	1,579	4,689	1,736	4,395
Georgiana ...	Non-Municipal	528	5,574	954	5,933	—	5,844
Bligh ...	" "	—	3,268	871	3,829	684	3,980
Westmoreland	" "	—	3,964	—	3,974	1,426	3,198
Grand Total...		40,332	49,483	50,265	50,921	63,652	47,577

The foregoing table reveals an actual decline in the rural element of the population in the Division of the Central Tableland. In 1891 such element formed over 55 per cent. of the population, in 1901 over 50 per cent., and in 1911 not quite 43 per cent., and nearly equivalent to the quasi-urban element of twenty years before. Within the decade marked by the census periods of 1891 and 1901, the rural and urban elements appear numerically to have changed places, the difference between the rural element of the former period and the urban element of the latter being only 782.

During the twenty years the population of the county of Bathurst increased by 846; but the rural element declined absolutely, its relation to the county population for the three periods under review being respectively 49·85, 44·87, and 39·86 per cent.; while the correlative proportion of the urban population was respectively 50·15, 55·13, and 60·14 per cent. On the other hand, the county of Cook, which had almost doubled its population within the twenty years under review, shows an unstable condition with respect to its rural element, the decrease from census to census being respectively, from 40·21 per cent. in 1891 to 29·15 per cent. in 1901, and to 16·96 per cent. in 1911.

Primary production however, though well represented, is not predominant in the county of Cook, the apparent urban element of which advanced from 59·79 per cent. in 1891 to 70·85 per cent. in 1901, and to 83·04 per cent. in 1911.

The county of Wellington is, on the contrary, one chiefly devoted to primary production, yet according to the table just given the rural element for the three census periods under review was respectively, 32·51, 29·85, and 33·80 per cent.; and the urban, 67·49, 70·15, and 66·20 per cent. The county of Roxburgh contains no municipal towns, and its unincorporated townships, with the exception of Kelso, which is essentially a suburb of Bathurst, are centres of districts devoted almost exclusively to primary production. The paradoxical position of Roxburgh is, that with the decline of rural occupations, it became increasingly rural, for much of its apparent urbanisation was due to the prosperity of goldfields like those of Wattle Flat and Sunny Corner. The rural element in the population of this county, for the three census periods under review, was respectively 63·09, 74·31, and 61·01 per cent.; and the urban, 36·91, 25·69, and 38·99 per cent. There was a decrease in the population of Roxburgh between the years 1891 and 1901, but at the census of 1911 it was restored nearly to that of the year first named.

The county of Phillip is accredited with the single municipal town of Gulgong. As a matter of fact, the municipality of Cudgegong is situated in the counties of both Wellington and Phillip, but the major portion of the inhabitants is domiciled in the former, and divisional records of the enumeration are not available. The rural element in the population of the county of Phillip amounted proportionally at the respective census periods under review to 77·45, 74·81, and 71·68 per cent., and the urban to 22·55, 25·19, and 28·32 per cent. The urban element in the population of the county of Georgiana disappeared from the census enumeration of 1911 through the decline in the number of inhabitants of the Burruga gold-mining township; for 1891 and 1901 it was respectively 8·65 and 13·85 per cent.

The emergence of Bodangora, another gold-mining locality, gave the county of Bligh a quasi-urban element in its population for the years 1901 and 1911, the respective proportional representation of which amounted to 18·53 and 14·66 per cent. The advance in the population of the mineral

centres of Yerranderie and Oberon gave the county of Westmoreland a quasi-urban element in 1911 which amounted to 30·84 per cent.

The exceptional movement of population in this Division is shown in the following table, which gives the proportional urban and rural elements in each of the counties at the three census periods under review; though the figures for 1911, when relating to "Localities," not otherwise defined, must be received with caution :—

County.	1891.		1901.		1911.	
	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Bathurst	50·15	49·85	55·13	44·87	60·14	39·86
Cook	59·79	40·21	70·85	29·15	83·04	16·96
Wellington	67·49	32·51	70·15	29·85	66·20	33·80
Roxburgh	36·91	63·09	25·69	74·31	38·99	61·01
Phillip	22·55	77·45	25·19	74·81	28·32	71·68
Georgiana	8·65	91·35	13·85	86·15	—	100·00
Bligh	—	100·00	18·53	81·47	14·66	85·34
Westmoreland	—	100·00	—	100·00	30·84	69·16
Total	44·91	55·09	49·68	50·32	57·23	42·77

The predominating rural character of the population of the Division, with the exception of the county of Cook, notwithstanding the apparent contradiction by the figures of the foregoing table, is nevertheless unquestionable, as an examination of the census of the occupations of the people must show. Based, for instance, on the number of primary producers in the county of Bathurst in 1911, namely, 4,519 persons of both sexes, and including dependents on natural guardians and domestics engaged in service and attendance, the rural population aggregated 11,499 persons. The predominance of the rural industry was, moreover, confirmed by the figures relative to the other classes, namely,—industrial 3,061, commercial 1,500, transport and communication 1,007, domestic 1,292, professional 912, and independents 241, or a total number of the breadwinning classes in the county of Bathurst of 12,582. If, however, the population of the county of Cook be subtracted from that of the Division, even on the figures submitted in the 1911 census for "Localities," otherwise undefined, and making no allowance for overstatement in the matter of residential address, the result will favour the predominance of the rural settlement of the Division, as follows :—

Division (excluding the County of Cook).	Population.			Proportion per cent. of Population.		
	1891.	1901.	1911.	1891.	1901.	1911.
Urban	31,494	37,755	40,494	41·97	45·20	48·59
Rural	43,539	45,774	42,849	58·03	54·80	51·41
Total (ex. Co. Cook)...	75,033	83,529	83,343	100·00	100·00	100·00

The proportionate elements shown above are based on census returns, namely, population of towns and villages, 1891 and 1901, and of "Localities" not otherwise defined, 1911. But the rural population of the Division, deduced from the number of primary producers, plus their dependents and domestics, is almost invariably greater than when based on populations as shown in the census of "Localities" for 1911, for reasons already detailed.

The majority of the class primary producers were resident in the county of Bathurst, where they numbered 4,569, the county of Wellington coming next with 3,082, and the county of Cook third with 2,554. There were of this class 1,915 in the county of Roxburgh, 1,481 in the county of Georgiana, 1,449 in the county of Phillip, 1,319 in the county of Bligh, and 1,224 in the county of Westmoreland. The persons engaged in mining were most numerous in the county of Cook, where they numbered 1,121, and were mainly workers in the collieries of the district. The county of Roxburgh found employment for 784, Wellington for 680, Bathurst for 412, Westmoreland for 355, Georgiana for 200, Bligh for 143, and Phillip for 111.

Of the 8,843 primary producers engaged throughout the Division in agriculture, 3,138 males and 87 females were in the county of Bathurst, 1,351 males and 31 females in the county of Wellington, 1,111 males and 10 females in the county of Cook, 774 males and 23 females in the county of Phillip, 640 males and 8 females in the county of Roxburgh, 606 males and 12 females in the county of Westmoreland, 552 males and 24 females in the county of Bligh, and 473 males and 3 females in the county of Georgiana.

Of the 4,330 primary producers engaged throughout the Division in pastoral pursuits, 884 males and 21 females were in the county of Wellington, 722 males and 37 females in the county of Bathurst, 706 males and 18 females in the county of Georgiana, 537 males and 20 females in the county of Bligh, 429 males and 50 females in the county of Phillip, 397 males and 9 females in the county of Roxburgh, 246 males and 16 females in the county of Cook, and 223 males and 15 females in the county of Westmoreland.

Throughout the Division there were 614 persons engaged as "Other" primary producers, of which number 173 were in the county of Bathurst and 115 in the county of Wellington. The rabbit industry engaged 479 persons of the class of primary producers, and of these 157 were in the county of Bathurst, 91 in the county of Wellington, 75 in the county of Georgiana, 65 in the county of Roxburgh, and the remainder distributed over the other four counties. Only 2 persons throughout the Division were listed as being engaged in the fishing industry, 102 were engaged in forestry, and 31 in the conservation and supply of water.

Of the 2,320 persons engaged on the railways 1,040 were in the county of Cook and 720 in the county of Bathurst; of 662 engaged in traffic on the roads, 258 were in the county of Cook and 165 in the county of Bathurst; and of 65 engaged in transport on the rivers, 43 were in the county of Cook and 16 in the county of Bathurst. The number of persons engaged in the manufacture of food, etc., was for the whole Division 763, the majority, in the order named, being in counties Bathurst, Wellington, and Cook, where several centres exist for the treatment and cold storage of rabbits destined for the metropolitan market.

Of 2,093 persons engaged in construction, including railway deviation works, 886 were in the county of Cook, 493 in the county of Bathurst, 375 in the county of Wellington, 118 in the county of Roxburgh, and the remainder were distributed over the other four counties. Throughout the whole Division, in the county of Cook alone did the industrial class take precedence of the primary producers; but there the former numbered 3,489, and the latter 2,554.

The following statement shows the relative position of the occupations of the breadwinning classes, including 793 persons classed as independents, at the census of 1911, in the Division of the Central Table-land :—

Class—Primary Producers	...	...	...	...	17,593
„ Industrial	...	...	...	...	10,432
„ Commercial	...	...	...	...	4,781
„ Domestic	...	...	...	...	4,479
„ Transport and Communication	...	...	...	...	3,457
„ Professional	...	...	...	...	3,085
„ Independents	...	...	...	...	793
Total	...	...	...	...	44,620

The foregoing paragraphs disclose certain disquieting facts concerning the movement of population in this old-established and richly-dowered Division. Settlement is not becoming closer, and a steady denudation of people is going on in districts where the soil is very fertile, and where the geological formation is highly mineralised. Agriculture, fruit-growing, horse, cattle, and sheep breeding, the culture of fine wools, dairy-farming, mining for coal, lime, shale, and for every known metal, besides precious gems, the manufacture of small arms, iron and steel sections, food products, butter, cheese, bacon, and many other remunerative activities, might be justly expected to lure to this Division great numbers of all kinds of primary producers and secondary industrial workers, and at least to retain the natural increase of the population, but the reverse is the case.

The Central Plateau might be, in production, self-sustentation, and exportation, as important as many an American State, as it certainly is in resources, and in area; but, with the exception of the region traversed by the Blue Mountains and its spurs, the Central Plateau is languishing, stationary, and slowly becoming depopulated in its oldest settled and once most prosperous districts. One of the causes for the declension of the Central Plateau is alleged to be the continual accretion of small holdings into large estates—with consequent discouragement of the settler of limited means, and the lowering of the spirit of enterprise.

Another cause of the decline of the Central Plateau is to be found in the extension of the railway routes throughout the State. Although the construction of railways was begun in New South Wales about the mid-fifties, the seventies had well advanced before communication had been established between Sydney and Bathurst. In the meantime, the latter town became the State headquarters of a great coaching system, which had been simultaneously introduced into all the colonies of Australia and New Zealand. The Central Tableland devoted much time and energy to horse-breeding for the service of this industry of intercommunication, and Bathurst itself became a centre for the construction and repair of vehicles, and the numerous energies created thereby.

Even when Bathurst was finally linked-up with the metropolis, it remained the pivot of systems lying outside the service of the railways and their reticulative radii; but the time came when the coach as an agent of intercommunication was entirely superseded by railway methods of transport, with a corresponding decline of the importance of the Central Plateau, and of direct loss to a no inconsiderable part of its enterprise.

The extension of the railway system destroyed beyond recovery a large frontier trade, which every new stage in the development of steam communication placed farther from its base. Prior to the seventies, Bathurst was not merely the "City of the Plains," it was the inland metropolis of transmontane New South Wales. The passing of the gold era

was another cause of the decline of the Central Plateau. Apart from aggregations of people in municipal and unincorporated centres of auriferous areas, every creek-course and gully of the Division was exploited by the diggers, as solitary adventurers or in companies of from two to twenty, in quest of gold. With the decline of profitable mineral winnings, there was a corresponding decline in this variety of peripatetic population.

For purposes of Local Government the Division of the Central Tableland has been sub-divided approximately into the following sixteen shires, or portions of shires, which are given hereunder, with their headquarters of administration :—

Shire.	Headquarters.	Shire.	Headquarters.
Coolah ...	... Coolah	Colo ..	... Wilberforce
Wyaldra ...	... Gulgong	Lyndhurst ...	... Blayney
Macquarie...	... Wellington	Waugoola ...	... Cowra
Meroo ...	... Mudgee	Abercrombie ...	... Rockley
Rylstone ...	... Rylstone	Oberon ...	... Oberon
Canoblas ...	... Orange	Blue Mountains	... Lawson
Turon ...	... Bathurst	Wollondilly ...	... The Oaks
Blaxland ...	... Wallerawang	Crookwell ...	... Crookwell

It will be remarked that the names of shires and their headquarters of administration have been duplicated in the cases of Coolah, Rylstone, Oberon, and Crookwell, and that Gulgong, the headquarters of administration for the Shire of Wyaldra, Wellington of Macquarie, Mudgee of Meroo, Orange of Canoblas, Bathurst of Turon, Blayney of Lyndhurst, and Cowra of Waugoola, are all themselves areas incorporated as municipalities.

THE DIVISION OF THE SOUTHERN TABLELAND.

The Division of the Southern Tableland contains the seven counties of King, Argyle, Murray, Cowley, Wallace, Beresford, and Wellesley, of which three, namely King, Argyle, and Murray, appear in Sir Thomas Mitchell's original survey of the "Nineteen Settled Counties," and share, with those of the Central Plateau, in the early history of the settlement of the State.

The Southern Tableland is bounded on the north by the Upper Lachlan River, from Battery Ridge to Mount Sugarloaf, thence running southward to the junction of the Lachlan and Crookwell Rivers, by the latter to its headwaters in the Cullarin Range, thence by the mountain chain leading roughly, north-east to Mount Macalister, thence to the hamlet of Yalbraith, thence leaving the range by the Guineacor Creek, by the latter to its junction with the Wollondilly River.

It is bounded on the south by the western section (from a point to the east of Mount Tennyson to the head of the Indi River) of the surveyed straight line running diagonally north-west from Cape Howe to Forest Hill, which forms the eastern part of the surveyed boundary between New South Wales and Victoria.

It is bounded on the east by the river Wollondilly, from its junction with Guineacor Creek to its westward deflection at Wamarra Brush, thence by Patrick's River and tributary creeks, by the Shoalhaven River from its southern bend in the latitude of the town of Goulburn to its junction with Jinden Creek, thence westward by a straight line running northward of Mount Italy to the Oronnear Creek, by the latter to the Gourrock section of the Main Dividing Range, the Kybean Range, the north-eastern section of the Monaro Range which forms the watershed of the Umaralla River, and by the South Coast Range, from its point of departure from the Monaro Range, southward to the Victorian border to the east of Mount Tennyson.

It is bounded on the west by the Burrowa River, from its junction with the river Lachlan on the north to its head-waters in the neighbourhood of Bowring Hill on the south; by the Yass River to its junction with the river Murrumbidgee, by the latter to its junction with the Goodradigbee River; by the Goodradigbee to its junction with Peppercorn Creek; by the latter to the Upper Murrumbidgee; by the Upper Murrumbidgee to the latitude of the Yarrangobilly Caves; thence southward by the Munyang Range and the Snowy Mountains to Forest Hill on the Victorian border.

Its southern extremity constitutes the Alpine region, not merely of the State of New South Wales, but of the Continent of Australia. It contains the highest peak in the Commonwealth, Mount Kosciusko, and other considerable peaks of lower altitude, such as Mount Townsend, Ram's Head, The Pilot, Mount Twynam, and David and Etheridge Peaks.

The whole of the Tableland is highly mineralised, and it is auriferous in a marked degree throughout; but whereas the Northern Division, though rich in gold, silver, copper, and gems, is mainly stanniferous, the plateau south of the Liverpool Range is predominantly gold-bearing with regard to the area available to exploitation, with copper, silver, gems, and iron-ore deposits at wider intervals. The counties of Murray, King, Argyle, Cowley, Wallace, and Wellesley were all noted for famous goldfields in the early days; and the diggings on the Lachlan, the Crookwell, the Yass, the Burrowa, the Goodradigbee, the Eucumbene, and the Snowy Rivers were household words sixty years ago.

Numerous little hamlets and struggling villages, which have long outlived their prosperity, are still quoted side by side with the names of the sturdier survivals they once outrivalled; and Captain's Flat, Buckley's Crossing, Michelago, Grabben Gullen, Taralga, Wheeo, Denison, The Gulf, Delegate, Cooma, Kiandra, Bungendore, Bombala, Tolwong, Merilla, Lake George, Quidong, Collector, Gundaroo, Queanbeyan, and Kyloe have associations which awaken memories in the minds of old diggers in every part of the Commonwealth. But silver, copper, iron-ores and lime in large quantities, occur throughout the Division; in the county of Beresford iron-ores are profitably worked; in the county of Argyle lime-burning is an important industry in a district where the limestone Caves of Wombeyan constitute a geological wonderland.

The subjoined table shows the population and density of persons per square mile of the Division of the Southern Tableland, in its sub-divisions of counties, for the three census periods of 1891, 1901, and 1911:—

County.	Area in square miles.	Population.			Density of persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Argyle	1,876	18,928	19,218	17,816	10·09	10·24	9·50
King	1,832	8,411	8,699	9,153	4·59	4·75	5·00
Murray	2,138	9,213	8,816	7,103	4·31	4·12	3·32
Wellesley	1,600	4,732	5,111	4,700	2·96	3·19	2·94
Beresford	1,482	4,215	4,587	4,424	2·82	3·09	2·98
Wallace	2,214	3,436	3,915	4,077	1·55	1·77	1·84
Cowley	1,223	683	793	345	0·56	0·65	0·28
Total	12,365	49,618	51,139	47,618	4·01	4·14	3·85

The Division lost exactly 2,000 inhabitants in twenty years. During the first decade under review it gained 1,521 inhabitants, and lost during the second 3,521, being a loss for the last ten years which was greater than the total

loss for twenty, but it was to some extent due to the withdrawal of population of parts of the counties of Murray and Cowley on the formation of the Federal Territorial Area. The county of Argyle and the chief town of the Division, Goulburn, both declined in population below the figures for 1891, the town continuously, and the county during the last decade. From 1891 to 1901 the county of Argyle gained 290 inhabitants, and from 1901 to 1911 lost 1,402, the total loss for twenty years amounting to 1,112, while the density of population ranged from 10·09 to 10·24, and from 10·24 to 9·50 persons per square mile. Since 1891 the county has possessed no unincorporated towns of the 500 inhabitants standard, although the region is dotted with villages and hamlets of varying importance, including a number of mining-camps.

Kenmore, already referred to, a township three miles north of Goulburn, containing an institution for the treatment of the insane, had to its credit a population of 1,399 at the census of 1911; but as no fewer than 1,083 persons were inmates, mentally incapable, the balance of the population, namely 316, cannot be considered as adequately representative of an urban centre. It is a railway station on the branch line from Goulburn to Crookwell, and its existence is due to the needs of the State Department of Health.

The county of King gained 288 inhabitants during the first, and 454 during the second decade, the increase for the whole period being 742, the density of population ranging from 4·59 to 4·75, and from 4·75 to 5·00 persons per square mile. The municipal town of Burrowa and the unincorporated town of Crookwell are both situated in this county; but while the former remained little more than stationary with regard to population during the whole twenty years, the latter progressed, though with no marked rapidity.

The county of Murray, which contains the municipal towns of Queanbeyan and Yass, and the unincorporated towns of Bungendore and Captain's Flat, lost 2,110 inhabitants within the twenty years under review, the decrease for the first decade being 397 and for the second 1,708, and the density of population ranged from 4·31 to 4·12, and from 4·12 to 3·32 persons per square mile. As a matter of fact, this loss is not chargeable to the county of Murray during the second decade, for the Federal Territory, which was taken out of this and the neighbouring county of Cowley, had to its credit at the date of the census enumeration 1,714 persons, as an initial population for the Commonwealth Capital, about a third of which was probably withdrawn from the population of New South Wales.

The county of Wellesley lost 32 inhabitants for the twenty years extending from 1891 to 1911, gaining 379 during the first and losing 411 during the second decade under review, the population density increasing from 2·96 persons per square mile in 1891 to 3·19 in 1901, and declining to 2·94 in 1911. Wellesley contained the municipal town of Bombala, which also suffered a decrease in its population; and the unincorporated towns of Delegate and Nimitybelle. The county of Beresford, which contains the municipal town of Cooma, gained 209 inhabitants during the period of the twenty years intervening between the census dates of 1891 and 1911, the first decade being represented by an increase of 372 inhabitants, and the second by a loss of 163, the population density ranging meanwhile from 2·82 to 3·09, and to 2·98 persons per square mile.

The county of Wallace, in which is situated the prosperous and progressive unincorporated town of Adaminaby, gained 641 inhabitants during the twenty years 1891-1911, the increase during the first decade being 479 and during the second 162, while the population ranged in density from 1·55 to 1·77, and to 1·84 persons per square mile. The county of Cowley contained neither municipal towns nor unincorporated villages of urban standard, and its population, though very small at the census of 1891, declined continuously

throughout the whole period under review, notwithstanding a slight improvement in its gold output gave it a small sporadic increase about the time of the census of 1901. During the first decade the county added 110 inhabitants to a population of 683, and during the second decade lost 448, or a total loss during the twenty years under review of 338, and the population density fluctuated slightly from 0.56 in 1891 to 0.65 in 1901, and to 0.28 in 1911. A portion of this loss during the second decade is due to the delimitation of the Federal Territory.

The only counties in the Division to show increases on the figures of the census of 1901 were King and Wallace. The counties of Argyle, King, Wellesley, Beresford, Wallace, and Cowley show increases in population on the figures of 1891, but King and Wallace only maintained their slight advantage. The counties of Argyle, Murray, Wellesley, and Cowley all show lower populations at the census of 1911 than those of the census of 1891, and the population density of the whole Division has declined during the twenty years under review from 4.01 to 3.85 persons per square mile.

The following table shows the municipalities in the Division with their population at the three census periods of 1891, 1901, and 1911 :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Goulburn	Argyle	10,916	10,612	10,023
Yass	Murray and King	1,770	2,220	2,136
Cooma	Beresford	1,729	1,938	2,063
Queanbeyan	Murray	1,262	1,219	1,273
Burrowa	King and Monteagle	767	830	891
Bombala	Wellesley	1,101	986	827
Total, Municipalities...		17,545	17,814	17,213

The foregoing six townships comprise three boroughs and three municipal districts. The boroughs were Goulburn (proclaimed the 4th June, 1859) Queanbeyan (proclaimed the 2nd February, 1885) and Bombala (proclaimed the 26th November, 1890). The municipal districts were Yass (proclaimed the 12th March, 1873) Cooma (proclaimed the 6th November, 1879) and Burrowa (proclaimed the 8th December, 1888).

Goulburn first appeared in a census enumeration in 1841 with a population of 655 persons, in 1846 it was 1,171, in 1851 it was 1,518, in 1856 it was 1,779, in 1861 (then a borough) it was 3,241, in 1871 it was 4,453, and in 1881 it was 6,839. Yass, dating also from the census of 1841, had in that year a population of 173 persons, in 1846 it was 274, in 1851 it was 653, in 1856 it was 660, in 1861 it was 1,123, in 1,871 it was 1,479, and in 1881 (then a municipal district) it was 1,804.

Cooma made its first appearance in a census enumeration in 1851 with a population of 47 persons, in 1856 it was 166, in 1861 it was 369, in 1871 it was 492, and in 1881 (then a municipal district) it was 1,042. Queanbeyan dates from 1841 with a population of 72 persons, in 1846 it was 208, in 1851 it was 372, in 1856 it was 504, in 1861 it was 526, in 1871 it was 682, and in 1881 it was 939. As a borough the population of Queanbeyan in 1891 was 1,262.

Burrowa first appeared in a census enumeration in 1861 with a population of 322 persons, in 1871 it was 446, in 1881 it was 653, and as a municipal district in 1891 it was 767. Bombala dates from 1851, with a population of 123 persons, in 1856 it was 319, in 1861 it was 405, in 1871 it was 565, in 1881 it was exactly 1,000, and as a borough in 1891 it was 1,101.

Goulburn, a diocese of the Church of England and of the Roman Catholic denominations, is situated 136 miles south-west from Sydney, on the junction of the Mulwarree and Wollondilly Rivers, is the chief town in the Southern Division of the great Tableland, and the pivotal point which links up the south, the south-west, the west, the north-west, the north, and the north-east lines of railway communication in this State. It is surrounded by fertile plains, adapted to every kind of agriculture, and to grazing pursuits; is flanked by mountain ranges rich in many known metals, gems, shales, lime, and building stones; and is within easy access of picturesque lakes and remarkable caves. The town is however languishing, and its municipal area of 8,320 acres has declined in its density of population from 1.31 persons per acre in 1891 to 1.28 in 1901, and to 1.20 in 1911. The municipality lost over the twenty years under review 893 inhabitants, the decrease being 304 for the first and 589 for the second decade. Goulburn depends for its support chiefly on the agricultural and pastoral production of the surrounding district; but gold, silver, and copper are profitably mined, and there are workings in marble, slate and lime, and lime-burning is an important industry of the place.

Yass is situated on the river of the same name, and the municipality occupies a portion of the counties of Murray and King, though the majority of the population resides in the former. It is, like Goulburn, mainly agricultural and pastoral, though copper, silver, and lead are won in payable quantities, and gold is found in the river-bed. The municipality has an area of 28,800 acres, and its population density at each of the census periods under review was respectively 0.06, 0.08, and 0.07 persons per acre, the municipality having made an addition to its population of 450 persons during the first decade and suffered a loss of 84 during the second, and its total gain for the twenty years intervening between 1891 and 1911 was 366. Like the municipal township of Queanbeyan, Yass is in a position of close relationship with the Federal Territory.

Cooma is a municipal centre of an Alpine region which rests on the flanks of the pastoral districts of the Monaro and the Murrumbidgee, and extends from Michelago on the north to the ranges near Nimitybelle on the south, and from the Coast Range to the Snowy Mountains. Some of the elevations within this region, of about 1,000 square miles in area, are over 6,000 feet in altitude above the mean sea-level, and many are covered with snow for several months of the year in succession. The district is agricultural, pastoral, and mineral, gold being found in many places, and copper being mined successfully at Kyaloe. Cooma, 17,664 acres in area, and with a density of population ranging for the three periods under review from 0.09 to 0.11, is one of the few municipalities in the Southern Plateau which show a small but continuous increase, the gain being for the whole twenty years 334, or 209 for the first and 125 for the second decade.

Queanbeyan, in the county of Murray, became a municipality on the 2nd February, 1885. Its area is 5,696 acres, and its population density at the three census periods respectively 0.22, 0.21, and 0.22, the population having declined by 43, and recovered to the extent of 54, for each successive decade under review, it may be regarded practically as stationary. The township is situated on a river of the same name, which flows through a fine agricultural and pastoral country, and its relative nearness to Sydney, which is distant less than 200 miles by rail, ensures the district a ready and continuous market for its principal products, consisting of wheat, maize, barley, oats, potatoes, butter, bacon, cheese, and hams. Like so many other centres on the Great Plateau, Queanbeyan is supported in part by the profitable working of rich deposits of copper, silver, lead, iron and gold, and the prospects of its future have been enhanced by its proximity to Federal

Territory, which has absorbed part of the district lying west and north-west of the Great Southern Trunk Railway line. The actual, in contradistinction to the State, population of this part of the Division would necessarily include the inhabitants settled in the Federal Capital Territory, the students and others at the Royal Military College of Duntroon, the residents of the Civil Quarters at Acton, and those at the Cotter River Weir.

Burrowa, 32 miles north from Yass, and 223 south-west from Sydney, is a municipal township situated on a river of the same name, standing on elevated ground, 1,500 feet above the sea-level, and connected with the metropolis by the Goulburn-Murrumburrah Railway line. Mainly occupying territory in the county of King, the municipal area extends into the adjoining county of Monteagle, which belongs to the Division of the South-Western Slope. Burrowa, now devoted mainly to agriculture and pastoral pursuits, raises large quantities of wheat, maize, barley, oats, rye, and potatoes; makes annually many gallons of wine; breeds extensively horses, cattle, sheep, and pigs; sends to market such dairy produce as butter, cheese, bacon, hams, eggs, and poultry; and supplies the requirements in grain of the local steam flour-mills. Burrowa, however, had its origin in the quest for gold, and began its existence as a mining-camp. Copper and silver, besides gold, are sought and won on its ridges and in its creeks and gullies, though the pristine importance of its mineral industry has diminished greatly. Notwithstanding all its opportunities and advantages for prosperous and progressive settlement, Burrowa is stagnant, and has merely held its ground. During the twenty-years' period under review it gained only 124 inhabitants, the increase being 72 for the first decade and 52 for the second; its area is 21,760 acres, and its correlative density of population advanced during the twenty years (1891-1911) from 0.03 to 0.04 persons per acre.

Bombala, a municipal centre in the county of Wellesley, is surrounded by farms, sheep stations, and mineral workings, alternating with timber-mills. It is a district greatly favoured by the breeders of sheep, cattle, pigs, and horses; and the metals won in its neighbourhood include gold, silver, lead, copper, and stream-tin, and quartz-reefing is exploited to the southward of the township. Bombala is, however, on the decline. Its municipal area of 1,299 acres had in 1891 a population of 1,101, but lost during the period under review 274 persons, or 115 for the first and 159 for the second decade, the density ranging from 0.85 to 0.76, and to 0.64 persons per acre.

The subjoined table shows for the three census periods of 1891, 1901, and 1911, the unincorporated towns and villages for the first and second years, and "Localities" not otherwise defined for the third, of 500 inhabitants and upwards, in the Division of the Southern Tableland:—

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Crookwell ..	King and Georgiana ...	...	...	925	1,395	1,696
Kenmore ...	Argyle ...	—	...	—	884	1,399
Adaminaby ...	Wallace ...	156	...	...	608	1,250
Nimitybelle ...	Wellesley ...	254	422	...	...	892
Gunning ..	King ...	468	...	...	602	816
Bungendore ...	Murray... ..	...	...	629	731	584
Delegate ...	Wellesley ...	365	...	...	508	569
						7,206
						Under 500.
Captain's Flat ...	Murray... ..	488	...	...	558	206
Taralga ...	Argyle ...	...	359	723	...	468
Total, over 500 Inhabitants ...				2,277	5,286	7,206

Crookwell, an unincorporated township situated mainly in the county of King, though it occupies a small extent of the county of Georgiana in the Central Division of the Tableland, stands at the head of a river of the same name, an affluent of the Lachlan. The district is both pastoral and agricultural, though mainly the latter, the principal crops being wheat, potatoes, oaten hay, and the fruits proper to a temperate and cool climate, as the township, at an elevation of 3,000 feet above sea-level, receives falls of snow in the winter months. Crookwell first appeared in a census enumeration in 1881, with a population of 240 inhabitants, which by the next enumeration it increased to 925. For the twenty years under review its increase amounted to 771, or 470 for the first and 301 for the second decade. The Crookwell River was once the scene of extensive gold-workings in the old days of the alluvial diggings era.

Kenmore, in the county of Argyle, has already been mentioned, and it is here sufficient to note that, although it is included for the purpose of completeness, it has no official or legitimate claim to be classed as an urban centre. Adaminaby, an unincorporated township in the county of Wallace, was known once as Seymour. It stands on the main road to Kiandra, southward about twenty miles, in the midst of a pastoral and agricultural country, though the mineral industry is represented by the adjacent copper-mines of Kyloe, and the gold quartz-reefs are both rich and numerous. As a mining district Adaminaby retains a reputation of being one of the oldest in the State, and has been continuously and profitably productive. One of its mines secured the Government award of £1,000 for the first discovery of payable gold at a greater perpendicular depth than 800 feet. Adaminaby appears in a census enumeration for the first time in 1891, with a population of 156 persons. During the twenty years intervening between that date and 1911 it had gained 1,094 persons, and more than doubled its population during the second decade of the period.

Nimitybelle, an unincorporated town in the county of Wellesley, is the centre of a district devoted to farming and grazing, sheep-breeding particularly, saw-milling and flour-milling, and the neighbouring region is both cupriferous and auriferous. Nimitybelle gained 638 inhabitants during the twenty years under review, or 168 for the first and 470 for the second decade. It first appeared in a census enumeration in 1871 with a population numbering 122, which fell to 91 during the next ten years, and recovered at the census of 1891, when it reached 254.

Gunning, an unincorporated township in the county of King, grew out of the sheep-station originally owned by Hamilton Hume, which he received from the Government of the day as a grant in reward for distinguished services to the Imperial authorities as an explorer and discoverer of virgin pastoral lands. It lies about midway between Goulburn and Yass, on the Main Southern Road and Meadow Creek, nearly 2,000 feet above sea-level, and 165 miles south-west from Sydney. Gunning first appeared in a census enumeration in 1846 with a population of 95, in 1851 it was 134, in 1856 it was 125, in 1861 it was 192, in 1871 it was 272, in 1881 it was 409, and in 1891 it was 468. Between the census periods of 1891 and 1901 the township gained 134 inhabitants, between those of 1901 and 1911 the increase was 214, or 348 for the twenty years. It is the centre of an agricultural district, cultivated mainly by free selectors, but pastoral pursuits are also creditably represented.

Bungendore, an unincorporated town in a district devoted to farming, grazing, and mining, is situated on the Turalla Creek, 177 miles south-west from Sydney, in the county of Murray, and within three or four miles of Lake George, the most picturesque inland sheet of water in Australia, and the largest in the State of New South Wales. It stands in the midst of auriferous

country, quartz-reefing for gold is a leading local industry, and it is also the nearest point on the railway line to Captain's Flat and the Bywong gold-field. Bungendore first appeared in a census enumeration in 1846, with a population of 30 persons, which by 1851 had risen to 63, in 1856 to 154, in 1861 to 195, in 1871 to 197, and in 1881 to 270. During the twenty years (1891-1911) the population declined by 45, but for the first decade it increased by 102, and during the second suffered a decline of 147.

Delegate is an unincorporated town in a distinctly auriferous region of the county of Wellesley, not far from the Victorian border, but 5½ miles from Nimitybelle, the nearest railway terminus. The population of Delegate in 1881 was 144, which rose to 365 in 1891. During the twenty years it increased in population by 204 persons, the accretion for the first decade being 143, and for the second 61.

Captain's Flat, an old-time goldfield in the county of Murray, is 28 miles from Bungendore, the nearest railway station. In 1891 its population numbered 488, in 1901 it had increased by 70 persons, but lost during the succeeding decade 352, or 282 over the two ten-years' periods, the population being then only 206 persons; but silver and gold-mining remain the principal pursuits of the locality. Taralga, in the county of Argyle, is 30 miles north-east of Goulburn, the nearest railway station, and 156 miles south-west of Sydney. The district of which it is the centre is largely agricultural and pastoral, but in the north-west the country is highly auriferous. It is situated on the Corroborree Creek, which flows through very calcareous country; the interesting Wombeyan Caves of limestone are only 12 miles distant from Taralga, and they are frequently visited both by scientists and sight-seers. Taralga first appeared as a mining village in the census of 1871 with a population of 165, in 1881 it had risen to 326, and in 1891 to 723. During the succeeding decade it lost 364 persons, or more than half its inhabitants, but gained 109 during the next ten years, the population of 1911 numbering 468, and the loss for the twenty-years' period amounting to 255.

The following table shows the municipal and the unincorporated urban and the rural elements of the population of the Division of the Southern Tableland for the three census periods of 1891, 1901, and 1911:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Argyle ...	Municipal ...	10,916	...	10,612	...	10,023	...
	Non-municipal ...	723	...	884	...	1,399	...
	Total ...	11,639	7,289	11,496	7,722	11,422	6,394
King ...	Municipal ...	767	...	839	...	891	...
	Non-municipal ...	925	...	1,997	...	2,512	...
	Total ...	1,692	6,719	2,836	5,863	3,403	5,750
Murray ...	Municipal ...	3,032	...	3,439	...	3,409	...
	Non-municipal ...	629	...	1,289	...	584	...
	Total ...	3,661	5,552	4,728	4,088	3,993	3,110
Wellesley ...	Municipal ...	1,101	...	986	...	827	...
	Non-municipal ...	—	...	508	...	1,461	...
	Total ...	1,101	3,631	1,494	3,617	2,288	2,412
Beresford ...	Municipal ...	1,729	2,486	1,938	2,649	2,063	2,361
Wallace ...	Non-municipal ...	—	3,436	608	3,307	1,250	2,827
Cowley ...	"	—	683	—	793	—	345
Grand Total ...		19,822	29,756	23,100	28,039	24,419	23,199

Of the population of the Division, the urban element formed 39·95 per cent. in 1891, and rose successively to 45·17 per cent. in 1901 and to 51·28 per cent. in 1911, while the rural element correspondingly declined from 60·05 in 1891 to 54·83 in 1901, and to 48·72 in 1911. Taking county by county, the urban element in Argyle shows a decline during the twenty years of 217, or 143 for the first and 74 for the second decade—a remarkable result when it is remembered that the urban population of the county of Argyle is inclusive of Kenmore, for which, if a deduction be made of patients under treatment for insanity, the decline of the urban element in the Division will be found for the first decade to amount to 703 and for the second to 597, or to 1,300 for the twenty years. The population of Kenmore, other than patients treated in the asylum for the insane, was 324 for the census of 1901, and 316 for the census of 1911. The municipal town of Goulburn not only appreciably declined in population, but the township of Taralga, by the loss of over two-fifths of its gold-mining inhabitants, fell below the urban standard at the census enumerations of 1901 and 1911.

The urban element in the county of King was more than doubled during the twenty years under review, the increase for the first decade being 1,144 and for the second 567, or a total of 1,711. The increase was, however, general and gradual, being greatest in the case of the unincorporated town of Crookwell.

The county of Murray gained 332 persons to the urban element in its population during the period under review, or an increase of 1,067 inhabitants for the first decade and a loss of 735 for the second. The gain was due partially to the sudden appearance of the mining centre of Captain's Flat in the census enumeration of 1901 with a population of 558, and partially to the expansion of Yass, owing doubtless to its close neighbourhood to gold-bearing areas. At the next census Captain's Flat dropped below the urban standard, Yass actually experienced a slight decline in its population, and the unincorporated town of Bungendore suffered a loss in 1911 which was greater than its gain in 1901. Queanbeyan, the other municipal town in the county of Murray, showed a small increase.

The future of Yass will be greatly inflected by its proximity, not only to the Federal Capital Territory, but to that of the great water-barrage of Burrinjuck, the titanic dam which will irrigate the lands of the Riverina over 200 miles distant. The vast area of confined water will constitute an inland sea, and furnish a resort for tourists and travellers unequalled in any other part of the Commonwealth, a change which will necessarily modify the fortunes of the district and of all its urban centres easy of access.

The urban element in the county of Wellesley more than doubled during the twenty years intervening between the census dates of 1891 and 1911, the increase for the first decade being 493, and for the second 694. At the census of 1891 the urban element in the county was due entirely to the municipal town of Bombala, which gradually declined in population from census to census. In 1901 Delegate appeared in the census enumeration with 508 inhabitants, and in 1911 Nimitybelle with 892. Both townships previously had populations which fell below the urban standard.

The urban element in the population of the county of Beresford is that of the municipal township of Cooma, the progress of which has been quite normal in its character. In 1891 the county of Wallace was unrepresented by any urban element in its population, for Adaminaby, its one unincorporated town since included as such in the census records of 1901 and 1911, had not then attained the urban standard; at the census of 1891

it was accredited with only 156 inhabitants. The county of Cowley is unrepresented in the urban element, and its population, which is composed mainly of primary producers, has declined nearly 50 per cent. during the twenty years under review.

On the 14th December, 1909, by the passing in the New South Wales Parliament of the "Seat of Government Surrender Act," 900 square miles of New South Wales territory, in the Division of the Southern Tableland, and in the counties of Cowley and Murray, together with 28 square miles in the vicinity of Jervis Bay, were handed over to the Commonwealth. A portion of the municipality of Queanbeyan, lying to the west of the Goulburn-Cooma Railway line, and amounting to 1,000 acres, was included in the area surrendered by the State for purposes of Federal Government, besides a few small hamlets. The population of these at the census of 1911 was as follows:—Hall, 179 persons, and Canberra 116, both in the county of Murray, and Tharwa, 188, and Urayarra 72, both in the county of Cowley. The population of the Federal Capital Territory in 1911, namely 1,714 persons, included pioneer staffs engaged in work connected with the establishment of the Commonwealth capital.

The following table shows the proportional urban and rural elements of the population of the Division of the Southern Tableland for the three census periods of 1891, 1901, and 1911:—

County.	1891.		1901.		1911.	
	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Argyle	61.49	38.51	59.82	40.18	64.11	35.89
King	20.11	79.89	32.61	67.39	37.18	62.82
Murray	39.74	60.26	53.63	46.37	56.22	43.78
Wellesley	23.27	76.73	29.23	70.77	48.68	51.32
Beresford	41.02	58.98	42.25	57.75	46.63	53.37
Wallace	—	100.00	15.53	84.47	30.66	69.34
Cowley... .. .	—	100.00	—	100.00	—	100.00
Total	39.95	60.05	45.17	54.83	51.28	48.72

The foregoing figures show that, with the exception of the county of Cowley, the rural population has declined and the urban increased for the period under review. The rural element in five out of the six counties (Argyle being the exception) declined proportionately to the urban during the first decade, and in the six counties declined similarly during the second decade. Although the county of Argyle fluctuated proportionately in the urban and rural elements of its population, it suffered actual loss over the whole period of twenty years.

The following statement shows the constitution of the population of the Division for the three census periods of 1891, 1901, and 1911, in municipal urban and unincorporated urban and in rural elements:—

	1891.	1901.	1911.
Municipalities	17,545	17,814	17,213
Unincorporated Towns and Villages (1891 and 1901), and "Localities" not otherwise defined (1911), of 500 inhabitants and upwards	2,277	5,286	7,206
Total, Quasi-urban	19,822	23,100	24,419
Remainder of the Division (Rural)	29,796	28,039	23,199
Total, Division	49,618	51,139	47,618

The whole Division exhibits a tendency which appears to be common with other Divisions which have experienced an appreciable decline, as revealed by the census statistics of 1911—namely, a culminating point, which marks a continual measure of progress, at the census of 1901. After this date the municipal towns and districts show a falling-off in their population, which is shared with the rural districts. The apparent increase in the population of unincorporated "Localities" not otherwise defined is inflected by considerations already detailed, and which must have no little weight in face of the fact that the entire Division suffered a serious diminution in its population. The population of municipalities in the Southern Tableland was over-stated in the census of "Localities" of the 1911 enumeration by 5·2 per cent., but the laxity with which the term "Locality" is applied disposes of any regular method of its employment in a sense strictly urban.

An examination of the occupations of the people of the Division gives, indeed, a much greater number of persons engaged in primary or rural pursuits than would be possible if "Localities" were to be accepted as entities essentially urban. The following table exhibits the constitution of the population of the Southern Plateau according to the occupations of the people at the census of 1911:—

Sex.	Breadwinners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	16,105	3,284	3,772	444	296	7,796	3,856	1,495	1,247	1,043	507	161	8,309
Females ..	3,208	86	106	—	—	192	372	296	55	563	1,650	80	3,016
Total ..	19,313	3,370	3,878	444	296	7,988	4,228	1,791	1,302	1,606	2,157	241	11,325

*Of the total population of the Division, namely 47,618, the breadwinners (inclusive of 241 persons classed as independents) numbered 19,313, or 16,105 males and 3,208 females. Of the breadwinners 7,988, or more than two-fifths, were primary producers, a class which included 192 females. The pastoral industry held first place with 3,372 males and 106 females, or a total of 3,878 persons, the agricultural coming closely behind with 3,284 males and 86 females, or a total of 3,370 persons. The miners, engaged chiefly in the counties of King, Wallace, and Argyle, numbered at the time of the enumeration 444, but the number of miners engaged in the Division was greatly subject to fluctuation through the incidence of discovery and development.

The "Other" primary producers in the foregoing table were all males, and included 198 hunters and trappers, ninety engaged in forestry, seven in the conservation and supply of water, and one employed as a fisherman. The hunting and trapping in the Division represented the energies of the rabbit enterprise, which supported secondary industries, such as freezing and preparing for transmission to market, established at Cooma, Yass, Crookwell, Bungendore, and Nimitybelle, the number employed as workers in food, etc., being 260. Of those engaged in transport and communication, 714 persons were employed in traffic on railways, and 303 in traffic on roads, but those on rivers numbered only 39. No fewer than 1,192 persons were engaged in construction, including railways, the extension of the Goulburn

Cooma line to Nimitybelle being in progress at the time of the census enumeration.

The census enumerated 86 females engaged in agriculture, and 106 engaged in pastoral pursuits, or a total of 192 throughout the Division; but the returns collected by the police as at the 31st March, 1911, enumerated 607 females engaged in agriculture, and 702 engaged in dairying, or a total of 1,327 females employed in these two branches of primary production throughout the Division. In the census classification, therefore, 521 females partially engaged in agriculture, and 614 females partially engaged in pastoral pursuits, or a total of 1,135 females partially engaged in primary production and partially in the discharge of domestic duties, were classed as dependents on natural guardians. Of the class last-named there were throughout the Division 27,719, or a proportion of 1·44 to one of the total number of breadwinners of both sexes; and the females engaged in domestic service and attendance numbered 1,650, or 8·5 per cent. of the breadwinners of the Division.

According to this basis of distribution, the primary producers, with the dependents on natural guardians and the females engaged in domestic service and attendance, domiciled with them, numbered 20,169 at the census enumeration of 1911, made up of 7,988 primary producers, 11,503 persons dependent upon them as their natural guardians, and 678 females employed as domestic attendants. The census figures show 23,199 as the rural population of the "Remainder of the Division," after deducting the population of the municipalities and the unincorporated towns of 500 inhabitants and upwards. This is so near an approximation to the estimate based on the primary producers and their dependents and associate workers as to prove the soundness of the method by which that approximation was deduced.

As compared with other breadwinners, in the classification of the occupations of the people in this Division, the primary producers predominate considerably, the industrial class coming second, but the commercial class was not so numerically important as the domestic class, and the professional class took precedence of those employed in transport and communication—the last being sixth on the list. The following statement shows the constitution of the population according to the numerical importance of the classes of occupation at the census of 1911:—

Class—Primary Producers	...	...	...	...	...	7,988
„ Industrial	...	...	...	...	...	4,228
„ Domestic	...	...	...	...	...	2,157
„ Commercial	...	...	...	...	...	1,791
„ Professional	...	...	...	...	...	1,606
„ Transport and Communication	...	...	...	...	...	1,302
„ Independents	...	...	...	...	...	241
Total	...	...	...	...	...	19,313

For the purposes of administration of the Local Government Acts the Division of the Southern Tableland has been subdivided approximately into the following shires, which in a few instances obtrude their areas into adjoining Divisions. Subjoined is a list of the nine shires, or parts of shires, of the Southern Plateau, and of their headquarters of administration:—

Shire.	Headquarters.	Shire.	Headquarters.
Murrungal...	Burrowa	Yarrowlumla	Queanbeyan
Crookwell...	Crookwell	Dalgely	Berridale
Mulwaree...	Goulburn	Monaro	Cooma
Goodradigbee	Yass	Bibbenluke	Bombala
Gunning	Gunning		

Crookwell has part of its area in the Division of the Central Tableland; Murrungal, Goodradigbee and Yarrawluma have sections of their areas in the adjoining Division of the South-Western Slope; and part of Tallaganda obtrudes from the Division of the South Coast into that of the Southern Tableland. The shire headquarters, Burrowa (Murrungal), Goulburn (Mulwaree) Yass (Goodradigbee), Queanbeyan (Yarrawluma), Cooma (Monaro), and Bombala (Bibenluka), are themselves all municipal districts within the shires the administrative interests of which they subserve. Crookwell and Gunning duplicate the names of towns in those of the shires of which the towns are administrative centres.

THE DIVISION OF THE NORTH-WESTERN SLOPE.

The Division of the North-Western Slope covers an area of 15,335 square miles, and comprises the nine counties of Burnett, Arrawatta, Murchison, Nandewar, Darling, Inglis, Pottinger, Buckland, and Parry, in their geographical order from west to east, and from north to south.

It is bounded on the north by the Macintyre River, from its junction with Whalan Creek on the west, and by the Dumaresq River to the junction of the latter with Beardy River on the east.

It is bounded on the south by the Warrumbungle Range, from a point east of Apple Tree Mountain to Beacon Hill, thence by the Liverpool Range to Melly's Knob, thence by the Mount Royal Range to Ben Hall's Gap, thence by the Main Dividing Range as far east as White's Sugarloaf.

It is bounded on the east by the Beardy River and Oak Creek, thence southward from the hamlet of Strathbogie by a range of hills as far as the latitude of Glen Innes, thence by a westerly spur and a series of surveyed lines leading west and west-north-west to the hamlet of Rob Roy, thence south-west by a semi-circular range of hills to the latitude of Stannifer, thence westward from a point in the range to the vicinity of Copeton, thence southward by the Upper Gwydir or Bundarra River, and by a range of hills connecting with the Nandewar Range near Mount Drummond, thence south-east and south by the Nandewar Range to the village of Kentucky, thence southward by the Moonbi Range to the Main Dividing Range at White's Sugarloaf.

It is bounded on the west by Ottley's Creek, from its junction with the Macintyre River east of Merriwa, by a series of surveyed lines running south-east and south-west to Mobbindy Creek, thence west by Tackimbri Creek to Croppa Creek, thence south-south-west from the junction of the latter with Yallaroi Creek by a straight line to the Gwydir River, by the latter to a point on the Moree-Inverell Railway line west of the hamlet of Biniguy, thence by a surveyed line running south-south-west to a range of hills curving westerly to the peak of Boppy Waa, thence by the range south-east and south-west to the head waters of Spring Creek, and by Spring Creek to its junction with the Namoi River, south-west by the Namoi to the village of Baan Baa, and thence by a low range of hills and surveyed lines to the Warrumbungle Range at a point east of Apple Tree Mountain.

On the eastern border of the Western Declivity, into which the geological formation of the Great Eastern Plateau intrudes, certain areas are highly metalliferous. Gold is still won in the counties of Arrawatta, Murchison, Darling, and Buckland, and in a somewhat diminishing degree in the county of Burnett. But the character of the Division is pre-eminently agricultural and pastoral, though, curiously enough, the number of miners, as recorded by the Census of 1911, namely 444, is identical with that of the Division of the Southern Plateau.

The following table shows the constitution of the population in counties at the three census periods under review, together with the density of population per square mile :—

County.	Area in square miles.	Population.			Density of Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Pottinger	2,811	4,697	6,196	8,986	1·69	2·20	3·20
Inglis	872	6,692	8,266	8,880	7·67	9·47	10·18
Parry	1,356	3,510	4,247	7,976	2·66	3·13	5·88
Buckland	1,565	4,530	6,652	7,666	2·89	4·25	4·90
Nandewar	1,241	3,104	3,793	6,570	2·50	3·06	5·29
Darling	1,540	2,773	4,576	6,155	1·80	2·17	4·00
Murchison	1,808	2,894	4,366	5,217	1·60	2·41	2·89
Ararawatta	2,397	1,752	2,705	3,929	0·76	1·18	1·71
Burnett	1,845	1,702	2,618	3,465	0·92	1·42	1·88
Total	15,335	31,663	43,419	58,844	2·06	2·18	3·84

The North-Western Division of the Great Declivity has grown considerably in influence, wealth, and population. The whole region and all its component counties have made a great advance at the expense of their southern neighbours. The Division contains eight municipalities, two of them, Barraba and Manilla, were new-comers in the incorporated list, but old towns. Warialda came into a census enumeration in 1901, and, singularly enough, it is the only municipality which has declined in population. The county of Inglis appreciably increased in the number of its inhabitants. The counties of Pottinger, Buckland, and Murchison nearly doubled, and the counties of Perry, Nandewar, Darling, Ararawatta and Burnett more than doubled their populations within the twenty-years' period under review.

The whole terrain of the Division is richly agricultural and pastoral. Every important centre has its steam flour-mill, and some have two. Gunnedah, Tamworth, Quirindi, Narrabri, Bingara, Manilla, Boggabri, to enumerate only a few of the leading townships, are all supported by the secondary industry of transforming grain into flour for market. Gunnedah, Tamworth, Narrabri, Nundle, and Swamp Oak, the latter an old goldfield, are sites of saw-mills and depots for the export of Australian timbers.

Tamworth possesses a brewery. Gunnedah, Tamworth, Narrabri and Barraba all have refrigerating works for the treatment of rabbits, and at Gunnedah, Tamworth, and Quirindi there are butter factories. These secondary industries of the towns indicate the nature of the primary industries pursued in the country. The progress of the North-Western Slope repeats that of the North Coast. Both Divisions have gained at the expense of central and southern neighbours. The advance of some counties has been truly remarkable, and it is a progress of the most satisfactory character, for no municipality, and no unincorporated town, has achieved success at the cost of the hinterland, rather the prosperity of the urban centres has sprung from, and been steadily nurtured by, the vigor and vitality of the surrounding country.

The following table exhibits the municipal towns for the three census periods of 1891, 1901, and 1911 :—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Tamworth	Inglis and Parry ...	4,602	5,799	7,145
Gunnedah	Pottinger	1,362	1,910	3,005
Narrabri	Nandewar	1,977	2,286	2,514
Quirindi	Buckland	1,139	1,676	2,240
Manilla	Darling ... ..	...	...	1,390
Bingara	Murchison	738	879	1,213
Barraba	Darling ... ..	...	...	1,125
Warialda	Burnett ... ..	...	875	782
Total, Municipalities ...		9,818	13,425	19,414

Of the eight municipal areas listed in the foregoing table, Tamworth and Narrabri were proclaimed as boroughs, and the remaining six as municipal districts. Tamworth and Warialda first appeared in a census enumeration in 1851, Gunnedah in 1851, Barraba in 1871, Narrabri, Quirindi, and Bingara in 1881, and Manilla in 1891.

The population of Tamworth in 1851 was 254 persons, in 1856 it was 448, in 1861 it was 654, in 1871 it was 1,511, and in 1881 (then a borough) it was 4,096. The population of Warialda in 1851 was 45 persons, in 1856 it was 65, in 1861 it was 110, in 1871 it was 131, in 1881 it was 268, in 1891 it was 400, and in 1901 (then a municipal district) it was 875. The population of Gunnedah in 1861 was 247 persons, in 1871 it was 459, in 1881 it was 1,331, and in 1891 (then a municipal district) it was 1,362.

The population of Narrabri in 1871 was 364 persons, in 1881 it was 832, and in 1891 (then a borough) it was 1,977. The population of Barraba in 1871 was 77 persons, in 1881 it was 229, in 1891 it was 413, in 1901 it was 747, and in 1911 (then a municipal district) it was 1,125.

The population of Quirindi in 1881 was 278 persons, and in 1891 (then a municipal district) it was 1,139. The population of Bingara in 1881 was 414 persons, and in 1891 (then a municipal district) 738. The population of Manilla in 1891 was 407 persons, in 1901 it was 1,269, and in 1911 (then a municipal district) it was 1,390.

The municipal town of Tamworth is situated on the Peel River, 160 miles north-west from Maitland, and 281 miles by rail from Sydney. It was founded in opposition to the monopoly known as the Peel River Land and Mineral Company, which in West Tamworth created a rival settlement on the other side of the Peel, which bisects the municipality at its junction with the Cockburn. The density of its population has increased from 0·87 in 1891 to 1·10 in 1901, and to 1·35 in 1911, and the increase in the number of inhabitants for the period covered by the twenty years under review has been 2,543, or 1,197 for the first, and 1,346 for the second decade. The municipal district occupies 5,274 acres, and it has been a continued complaint that the interests and close neighbourhood of the land company have retarded development. Tamworth holds the unique position in Australian annals of being the first town in the Commonwealth to adopt electric lighting. It is the centre of a fine agricultural, pastoral, and mining district, the principal goldfields being situated at Bowling Alley Point, Nundle, Hanging Rock, Barraba, and Bingara. Tamworth was proclaimed a borough on the 17th March, 1876, and is the oldest incorporated area in the Division, as well as the principal township.

Gunnedah, the second place of importance in the North-Western Slope, is situated about a mile below the junction of the Mooki and the Namoi Rivers, on the left bank of the latter stream, 50 miles west from Tamworth, and 296 miles north-west from Sydney. It is a municipal district, and was proclaimed as such on the 17th September, 1885. It covers an area of 2,656 acres, and its density of population has risen from 0·51 to 0·72, and to 1·13 persons per acre during the period under review, the population increasing for the twenty years by 1,643 persons, or 548 for the first and 1,095 for the second decade. In the fine district which surrounds Gunnedah, agriculture is overtaking and replacing the pastoral industry, the principal products of the region being wheat, maize, barley, potatoes, cheese, butter, bacon and hams, though sheep-breeding is also well represented.

Narrabri is a borough town by proclamation dated the 5th September, 1883, and the centre of an agricultural and pastoral district. Its area of 2,560 acres had a population density in 1891 of 0·77 persons per acre, which grew to 0·8 in 1901 and to 0·98 in 1911, the numerical increase for the twenty years being 537, or 309 for the first and 228 for the second decade. Wheat-growing and sheep-farming are the principal industries, but the district produces also large quantities of maize, potatoes, butter, bacon, hams, and cheese.

Quirindi serves the railway needs of a large part of the Liverpool Plains, is the outlet for Coonabarabran and Nundle, and is situated on the Great Northern line, 243 miles north of Sydney, and 26 miles north-west of Murrumbidgee, at the junction of the Quirindi and the Jacob and Joseph Creeks. It was proclaimed a municipal district on the 24th December, 1890, and covers 1,498 acres, its density of population ranging from 0·76 to 1·11 and to 1·50 persons per acre during the period under review, its increase of population for the twenty years being 1,101 persons, or 537 for the first and 564 for the second decade. The district surrounding the municipality is of the mixed agricultural and pastoral description characteristic of these plains.

The wheat-growing municipality of Manilla is situated at the junction of the Namoi and Manilla Rivers. Its area of 1,040 acres had a population density ranging from 0·26 to 0·85, and to 1·34 for the three census years of 1891, 1901, and 1911, and its inhabitants increased for the whole period by 983, or 862 for the first and 121 for the second decade. It was proclaimed a municipal district on the 10th June, 1901.

Bingara dates as a municipal district from the 27th March, 1889. Its area of 3,072 acres has a density of population ranging from 0·24 to 0·29, and to 0·39 for the three census years under review, and its increase was for the whole period of twenty years 475 persons, or 141 for the first and 334 for the second decade. The township is on the Gwydir River, and the district of which it is the centre is highly mineralised, as there are found gold, copper, silver, asbestos, tin, coal, oil-shale, quicksilver, and diamonds.

Barraba is also the centre of a minerally endowed region, though agriculture and the pastoral industry are strongly represented. It contains an area of 840 acres, and was proclaimed a municipal district on the 19th May, 1906. Its increase in population for the twenty years under review was 712 persons, or 334 for the first and 378 for the second decade, its density of population ranging from 0·49 to 0·89, and to 1·34 persons per acre. It is situated on the Manilla River, about 56 miles from Tamworth on the Main Northern Road, in the neighbourhood of several goldfields, with such well-known names as Crow Mountain, Woodsreef, Tea Tree, Paling Yards, and Ironbark, and the Gulf Creek Copper Mine is only 20 miles distant.

Warralda is an exception to the general municipal progress of the Division. Its area of 5,248 acres was proclaimed a municipal district on the 30th March, 1900, and at the census of 1901 it possessed a population of 875 persons, which declined to 782 by the census of 1911. From 1891 to 1901 it gained

382, and from 1901 to 1911 lost 93, its density ranging from 0·08 to 0·17, and to 0·15. The character of the surrounding country is mainly pastoral, and this may account to some extent for the retardation of the township's progress.

The municipal population of the Division increased by 9,596 during the twenty years under review, or by 3,607 for the first and by 5,989 for the second decade. The population of the unincorporated towns in the Division showed a corresponding increase, as will be seen from the following table:—

Town, Village, or Locality.	County.	Population.				
		Under 500.		500 and upwards.		
		1891.	1901.	1891.	1901.	1911.
Boggabri ...	Pottinger & Nandewar ...	...	...	506	560	1,953
Werris Creek ...	Buckland ...	329	...	...	503	1,083
Curlewis ...	Pottinger ...	127	112	...	...	992
Delungra ...	Burnett and Murchison ...	...	...	...	...	819
Attunga ...	Inglis ...	165	347	...	...	606
Nundle ...	Parry ...	260	496	...	...	602
Ashford ...	Arrawatta ...	67	104	...	...	602
Wallabadah ...	Buckland ...	158	425	...	...	599
Currahubula ...	" ...	311	360	...	...	557
Dungowan ...	Parry ...	...	251	...	...	525
Moonbi ...	Inglis ...	261	163	...	...	503
*Manilla ...	Darling ...	407	...	...	1,269	...
*Barraba ...	" ...	413	...	...	747	...
						8,831
						under 500.
Little Plain ...	" ...	261	...	...	503	319
Swamp Oak ...	Parry ...	...	113	947	...	233
*Warialda ...	Burnett ...	400	...	...	...	...
Total, over 500 Inhabitants ...				1,453	3,582	8,831

* Manilla was incorporated as a municipality in 1901, Barraba in 1906, and Warialda in 1906.

The population of the unincorporated townships and villages, and "Localities" otherwise undefined, increased during the twenty years under review by 7,378, or by 5,249 during the first decade and by 2,129 during the second. Of the eleven townships of the urban standard in 1911, two only were qualified in 1891, and two in 1901. Manilla and Barraba, townships of urban rank in 1901, became municipalities before the enumeration of the next census. Little Plain, with 261 inhabitants in 1891, and 503 in 1901, falls out of the urban classification with 319 in 1911, and Swamp Oak, with 947 inhabitants in 1891, dropped to 113 in 1901, and in 1911 rose to 223, but was still below the urban standard of 500 and upwards.

Warialda appeared in 1891 with a population of 400 inhabitants, and became incorporated as a municipal district before the next census. Boggabri, Werris Creek, Curlewis, and Manilla are wheat-growing districts; and tobacco is also grown successfully at the last-mentioned. A number of townships possess saw-mills, namely Boggabri, Swamp Oak, and Bingara; and flour-mills are operated at Bingara and Boggabri. Coal is mined at Curlewis, and gold at Bingara, Swamp Oak, and Nundle—the last-named is the centre of the Peel River goldfield, being situated at the head of the stream, and gold-reefing and quartz-crushing are conducted at Swamp Oak.

But, although mining is an important industry on the eastern fringe of the North-Western Slope, the leading pursuits are agriculture and the breeding of sheep, cattle, and horses. The terrain was once wholly given over to pasturage, but each year sees an increase in the area devoted to agriculture, and wheat-growing is rapidly absorbing the attention and the energies of land-owners.

During the twenty years under review Boggabri almost quadrupled its population, gaining 54 persons in the first and 1,393 in the second decade. Werris Creek, noteworthy as a railway junction with a splendidly-equipped station, gained 174 persons in the first and 754 in the second decade—more than trebling its population during the twenty years under review.

In the same space of time Curlewis, though stationary for the first decade, through the discovery of coal increased from 112 inhabitants in 1901 to 992 within the next decade. Delungra, a railway township on the Inverell-Moree line, appeared for the first time in a census record in 1911 with a population of 819. Most of the townships in this Division are centres of wheat-lands, and their growing populousness is the result of their advancing importance as grain depôts of receipt and exchange. Wallabadah is a typical township of this description, though certain more recent places show a more rapid advance. Little Plain is no less typical as a mining township, with its sporadic advances and decreases of population, a condition of development even more emphasised in the case of Swamp Oak.

Of the sixteen unincorporated towns, villages and localities listed in the preceding table Manilla, Barraba and Warialda have been referred to in a former paragraph. Boggabri, Nundle and Wallabadah appeared for the first time in a census enumeration in 1871, Swamp Oak in 1881, Werris Creek, Curlewis, Attunga, Ashford, Currabubula, Moonbi and Little Plain in 1891, and Dungowon in 1901. In 1871 Boggabri's population numbered 94 persons, and in 1881 it numbered 453. The population of Nundle in 1871 was 132 persons, and in 1881 it was 170. The population of Wallabadah in 1871 was 144 persons, and in 1881 it was 172. The population of Swamp Oak in 1881 was 246 persons.

The following table shows the municipal urban and the non-municipal urban, and the rural elements of the population of the Division of the North-Western Slope for the three census periods of 1891, 1901, and 1911:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Pottinger	Municipal ...	1,362	...	1,910	...	3,005	...
	Non-municipal	506	...	560	...	2,945	...
	Total ...	1,868	2,829	2,470	3,726	5,950	3,036
Inglis	Municipal	4,602	...	5,799	...	7,145	...
	Non-municipal	—	...	—	...	1,109	...
	Total ...	4,602	2,090	5,799	2,467	8,254	626
Parry	Non-municipal	947	2,563	—	4,247	1,127	6,849
Buckland	Municipal ...	1,139	...	1,676	...	2,240	...
	Non-municipal	—	...	503	...	2,229	...
	Total ...	1,139	3,400	2,179	4,473	4,469	3,197
Nandewar Darling	Municipal ...	1,977	1,127	2,286	1,507	2,514	4,056
	Municipal ...	—	...	—	...	2,515	3,640
	Non-municipal	—	2,773	2,519	2,057	—	...
Murchison Arrawatta	Municipal ...	738	2,156	879	3,487	1,213	4,004
	Non-municipal	—	1,752	—	2,705	602	3,327
Burnett	Municipal	—	1,702	875	1,743	782	1,864
	Non-municipal	—	...	—	...	819	...
	Total ..	—	1,702	875	1,743	1,601	1,864
Grand Total ...		11,271	20,392	17,007	26,412	28,245	30,599

The proportion of the urban and rural elements in the population of the Division at each of the three census periods under review has been respectively as 35.59 to 64.41, 39.17 to 60.83, and 47.96 to 52.04. Some of the figures for the county subdivisions suggest anomalies and accidents, and merit a brief examination. The sudden access of urban population by the county of Pottinger in 1911 was not due wholly to the growth of the municipality of Gunnedah. Curlewis, owing to the development of its coal-workings, added no fewer than 880, and Boggabri nearly 1,400, but some allowance must be made in both these instances for the probability of over-statement in the census of "Localities." For the municipalities of this Division of ascertained populations and recorded boundaries this element of over-statement was as high as 22 per cent.

The expansion of urban population in the county of Inglis in 1911 was due to the growth of the municipality of Tamworth, and to the inclusion of Attunga and Moonbi among the unincorporated townships of urban rank. But the fall of the rural population in this county from 2,467 to 626 is a phenomenon of settlement.

In the county of Parry the case is reversed. The non-municipal gold-mining township of Swamp Oak, accredited with 947 persons in 1891, dropped out, and in 1901 the urban element was unrepresented in the county, re-appearing, however, in 1911 in the unincorporated townships of Nundle and Dungowan. Buckland is another county which became increasingly urban in 1911. In 1891 its urban population was due exclusively to the municipality of Quirindi, in 1901 Werris Creek reached the urban standard, and its population entitled it to inclusion, and in 1911 Werris Creek doubled its population of the preceding decade, and the two new townships of Wallabadah and Currabubula assisted in swelling the total.

Nandewar is a county in which the rural population remarkably increased during the last decade. In 1891 the major part of the people were included in the municipal area of Narrabri; and the disproportion of the urban and rural elements was even greater in 1901; but in 1911, the rural element took the lead, owing doubtless to the superseding of the pastoral industry by agriculture, particularly by wheat-growing. The county of Darling lost the unincorporated urban population it had in 1901 by the dropping out of the mining township of Little Plain, and the proclamation of Manilla and Barraba as municipal districts.

The county of Murchison was represented in its urban element by the municipality of Bingara. The county of Arrawatta was, in 1911, credited with the one unincorporated township of Ashford, and the county of Burnett, in 1901, with the municipal district of Warialda, to which the unincorporated township of Delungra was added in the census records of 1911.

The following statement shows the constitution of the population of the Division for the three census periods of 1891, 1901, and 1911, in municipal urban and unincorporated urban and in rural elements:—

	1891.	1901.	1911.
Municipalities	9,818	13,425	19,414
Unincorporated Towns and Villages (1891 and 1901), and "Localities", not otherwise defined (1911), of 500 inhabitants and upwards	1,453	3,582	8,831
Total, Quasi-urban	11,271	17,007	28,245
Remainder of the Division (Rural)	20,392	26,412	30,599
Total, Division ..	31,663	43,419	58,844

The "Remainder of the Division" refers to the whole population outside municipal areas, or not included as the inhabitants of unincorporated

towns, villages, or "Localities" so-called, and necessarily consists of a number of persons engaged in trade, travel or industry other than pursuits and callings of persons classed as primary producers. In the Class—Transport and Communication were enumerated 590 persons, almost entirely males, engaged in traffic on railways, and 450 in traffic on roads, while six only were engaged in the work of river transit. The workers in food, etc., numbered 358, and 1,255 were engaged in building and other construction, inclusive of railway-workings.

The following table exhibits the constitution of the population of the Northern Division according to the occupations of the people at the census of 1911:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	21,849	6,499	5,561	444	376	12,880	4,221	1,963	1,230	850	526	179	8,969
Females ..	3,240	113	118	..	1	232	366	217	61	498	1,807	59	3,008
Total ..	25,089	6,612	5,679	444	377	13,112	4,587	2,180	1,291	1,348	2,333	238	11,977

The "Other" primary producers in the foregoing table were, with a single exception, males, and included 115 hunters and trappers, 201 engaged in forestry including one female, one fisherman, and sixty males engaged in water conservation and supply. Of the total population of the Division, namely 58,844, the breadwinners (inclusive of 238 persons classed as independents) numbered 25,089, or 21,849 males and 3,240 females. Of the breadwinners 13,112, or more than one-half, were primary producers, a class which included 232 females. The agricultural industry held first place with 6,499 males and 113 females, or a total of 6,612 persons, the pastoral coming second with 5,561 males and 118 females, or a total of 5,679 persons.

The miners were engaged chiefly in the counties of Parry, Murchison, and Pottinger, on mineral fields already mentioned, though the mining interest was so attractive that a number of diggers found employment in the counties of Buckland, Inglis, and Darling, and some were to be found even in the less mineralised counties of Arrawatta, Burnett, and Nandewar.

The census of 1911 enumerated 113 females engaged in agriculture, and 118 engaged in pastoral pursuits, or a total of 231 throughout the Division occupied with these two branches of primary production, but the returns collected by the police as at the 31st March, 1911, enumerated 110 females engaged in agriculture, and 404 engaged in dairying, or a total of 514 females employed in these two branches of primary production throughout the Division. In the census classification, therefore, a total number of 283 females, partially engaged in primary production, and partially in the discharge of domestic duties, were classed as dependents on natural guardians.

Of the latter class, there were throughout the Division 33,306, or a proportion of 1.33 to one of the total number of breadwinners of both sexes, and the females engaged in domestic service and attendance numbered 1,807, or 7.2 per cent. of the breadwinners in the Division. According to this basis of distribution, the Class "Primary Producers," with the dependents on natural guardians, and the females engaged in domestic service and attendance, domiciled with them, numbered 31,495 at the census enumeration of 1911,

made up of 13,112 primary producers, 17,439 persons dependent upon them as their natural guardians, and 944 females employed as domestics and attendants. The population of the "Remainder of the Division," as revealed by statistics collected at the census of 1911, and shown in the foregoing table, is given as 30,599 for that year—a result so close to that estimated for primary producers as to bear out the argument that the elimination of mining areas classed as urban automatically adjusts the population into its urban and rural elements.

The following statement shows the constitution of the population according to the numerical importance of the classes of occupation at the census of 1911:—

Class—Primary Producers ...	...	...	...	...	...	13,112
„ Industrial ...	...	...	...	...	...	4,587
„ Domestic ...	...	...	...	...	...	2,333
„ Commercial ...	...	...	...	...	...	2,180
„ Professional ...	...	...	...	...	...	1,348
„ Transport and Communication ...	...	...	...	...	...	1,291
„ Independents...	...	...	...	...	...	238
Total ...	...	...	...	...	...	25,089

For purposes of administration of the Local Government Acts, the Division of the North-Western Declivity has been subdivided approximately into the following fourteen shires, or parts of shires, which, with their headquarters of administration, are given herewith:—

Shires.	Headquarters.	Shires.	Headquarters.
Yallaroi ...	Warialda.	Mandowa ...	Manilla.
Ashford ...	Inverell.	Liverpool Plains ...	Gunnedah.
Bannockburn ...	„	Peel ...	Tamworth.
Macintyre ...	„	Cockburn ...	„
Gwydir ...	Bingara.	Tamarang ...	Quirindi.
Barraba ...	Barraba.	Nundle ...	Nundle.
Namoi (part of) ...	Narrabri.	Warrah (part of) ...	Murrurundi.

Warialda, the administrative centre of Yallaroi, Bingara of Gwydir, Barraba of the shire of Barraba, Narrabri of Namoi, Gunnedah of Liverpool Plains, Quirindi of Tamarang, Manilla of Mandowa, and Tamworth of Cockburn and of Peel, are all themselves municipalities within or adjoining the shires the interests of which they subserve. Inverell, a municipal town in the Division of the Northern Tableland, is the headquarters of the shires of Ashford, Macintyre and Bannockburn, and Murrurundi, a municipal town in the Division of the Hunter and the Manning, is the headquarters of the shire of Warrah. Barraba duplicates municipal and shire designations. Ashford is the name of a town within the shire of Ashford, and Nundle, the headquarters of the shire of Nundle, is also a duplicated name.

THE DIVISION OF THE CENTRAL-WESTERN SLOPE.

The Division of the Central-Western Slope is comprised in the six counties of Gowen, Napier, Lincoln, Gordon, Ashburnham, and Forbes, and covers an area of 9,770 square miles.

It is bounded on the north, from the hamlet of Baronne, eastward by the Baronne and Wambelong Creeks (affluents of the river Castlereagh) to Junction Mountain, and thence by the Warrumbungle Range to Sugarloaf Point.

It is bounded on the south by the Weddin Mountain Range, eastward from Black Spring Mountain to Weddin Mountain, thence northward by the Warraderry Range to a point in the vicinity of the hamlet of Eualdrie, thence eastward by a mountain chain to the junction of the latter with the Warrumbungle Range, thence south-eastward to the Conumbra Range, thence north-east to the Broula Range, and south-south-east by the Broula Range and the Crowther Range to the village of Uppingham, thence by the ridge

and the railway line to Koorowatha, thence by the mountain chain running south-east and north-east to Battery Ridge, near the junction of the Boorowa and Upper Lachlan Rivers.

It is bounded on the east by the Warrumbungle Range, from Sugarloaf Point south-east to Pandora's Pass, thence south-west by the Coolaburragundy River as far as the township of Dunedoo, thence south and south-west by a chain of hills to the hamlet of Emiguley, thence south, west, and north-west by the range to the township of Bodangora, thence southward by the Upper Macquarie and Bell Rivers and Molong Creek, by Cargo Ridge, Coffee Hill, the Canoblas, the Bald Hill, Lapstone Range, the Panuara Rivulet, the Belubula River, and the Upper Lachlan near its junction with the Boorowa River.

It is bounded on the west by the river Castlereagh, south-south-east to the township of Bree-long, thence south-west by surveyed lines to the village of Eumungerie, thence by Coolbaggie Creek to its junction with the river Macquarie, and by the Macquarie to the hamlet of Terramungamine, thence south and south-south-west by surveyed lines to Bagle Cuble Creek, and southward by the latter, the Sappa Bulga Range, and Hervey's Range to the hamlet of Tuckelbri, thence westward by a chain of hills to the junction of the latter with the Gunning Range, thence southward by the Gunning, the Corradgery, and the Jemalong Ranges to the peak of Gooburthery; thence south-east by the Currowong Hills to the Wheogo Range, north-east by the latter towards Mount Wheogo, and thence south-south-east and south by the Weddin Mountain Range—part of the geological configuration forming the watershed of the Bogan River system, and the rim of the basin of the Great Western Plain.

The Central Declivity is metalliferous, and marks the border of the gold-zone which had its culminating point in the region of the neighbouring plateau. The county of Ashburnham still is searched profitably for gold, and the counties of Lincoln and Gordon in less degree; but the county of Forbes, now practically deserted in this connection, once held high rank in the traditions of early mining records. With the adjoining county of Monteagle, in the Division of the South-Western Slope, Forbes constituted a region devoted to the quest of the precious metal and known for the lawless deeds of the outlaws who disputed its possession with the finders.

Throughout the Division a few old and well-established places continue their maintenance of the industry which first induced the venture of settlement—notably Forbes, Parkes, Canowindra, and Cargo. All these once-prosperous and still-exploited goldfields are in the Lachlan Mining District, with the exception of Canowindra, which is allotted to the Bathurst area.

The Division is predominantly agricultural, the county of Ashburnham being almost wholly so, Forbes and Lincoln coming second and third, though far behind; but pastoral pursuits are also represented.

The following table shows the constitution of the population in counties of the Division of the Central-Western Slope at the three census periods under review, together with the density of population per square mile:—

County.	Area in square miles.	Population.			Density of persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Ashburnham	2,175	14,029	17,269	18,321	6.45	7.94	8.47
Lincoln	1,902	8,301	9,230	9,954	4.36	4.85	5.23
Gowen	1,788	2,024	3,120	5,501	1.13	1.75	3.08
Forbes	1,429	3,208	3,911	4,870	2.24	2.74	3.41
Gordon	1,455	2,462	4,174	3,852	1.66	2.87	2.65
Napier	1,021	995	944	1,470	0.97	0.92	1.44
Total	9,770	31,019	38,648	43,968	3.17	3.95	4.50

The Central Division of the Western Declivity shows a very satisfactory condition of prosperity throughout, largely owing to the advance of agriculture. One county only—namely Gordon—has retrograded during the second decade under review, and one—Napier—during the first decade. Gordon gained during the first ten years 1,712 persons and lost 322 during the second, the increase in its population between the census years 1891 and 1911 amounting to 1,390. Napier lost 51 persons during the first decade, but gained 526 during the second, thus showing a total increase for the whole period of 475. The density of population in the county of Gordon rose from 1·66 persons per square mile in 1891 to 2·87 in 1901, but it fell to 2·65 in 1911. The density of population in the county of Napier fell from 0·97 in 1891 to 0·92 in 1901, but rose to 1·44 in 1911.

In the remaining four counties of the Division the advance in population was continuous from census to census. The increase in the county of Ashburnham was, for the whole period of twenty years, 4,292, or 3,240 for the first and 1,052 for the second decade, the density of persons per square mile ranging from 6·45 to 7·94 and to 8·47. Ashburnham contains the larger portion of the municipalities of Forbes and Molong, the municipality of Cudal, the larger portion of the unincorporated township of Canowindra, and the unincorporated townships of Cargo, Eugowra, and Manildra. It is by far the most important and the most populous county of the Division.

Lincoln comes next, but far behind, with somewhat more than half Ashburnham's population. The county of Lincoln gained during the twenty years under review 1,653 persons, or 929 for the first and 724 for the second decade, the density of persons per square mile ranging from 4·36 to 5·23. The county of Gowen gained for the twenty years 3,477 persons, or 1,096 for the first and 2,381 for the second decade, the population ranging from 1·13 to 3·08 persons per square mile. The county of Forbes gained 1,662 persons for the whole period, or 703 for the first and 959 for the second decade, the density of persons per square mile ranging from 2·24 to 3·41.

For the whole Division the increase in population for the period of twenty years under review was 12,949, or 7,629 for the first and 5,320 for the second decade, and the density of population ranged from 3·17 persons per square mile in 1891 to 3·96 in 1901, and to 4·50 in 1911. The municipalities did not, however, advance proportionately with the Division, as will be seen from the subjoined table:—

Municipality.	County.	Population.		
		1891.	1901.	1911.
Dubbo	Lincoln	4,555	3,409	4,452
Forbes	Ashburnham and Forbes ...	3,011	4,294	4,436
Parkes	Ashburnham	2,449	3,181	2,935
Molong	Ashburnham and Wellington ..	1,112	1,254	1,371
Cudal	Ashburnham	447	599	574
Total, Municipalities ..		11,574	12,737	13,768

The five towns shown in the foregoing table were all municipal districts. Forbes was incorporated on the 27th April, 1870, Dubbo on the 16th February, 1872, Molong on the 13th November, 1878, Parkes on the 28th February, 1883, and Cudal on the 20th October, 1890.

Dubbo first appeared in a census enumeration in 1851 with a population of 47 persons, in 1856 the population was not recorded, in 1861 it was 381, in 1871 it was 836, and in 1881 (then a municipal district) it was 3,334. Molong first appeared as West Molong in 1851, with a population of 32 persons, and, like Dubbo, it was not listed among the Colony's towns in 1856. Without the prefix, Molong was accredited in 1861 with a population of 263 persons, in 1871 it was 360, and in 1881 (then a municipal district) it was 874.

Forbes dates from the census of 1861, with a population of 124 persons. In 1871 (then a municipality) it had risen to 1,256, and in 1881 to 2,191. Parkes dates from the census of 1871, with a population of 1,961 persons, which in 1881, as a municipal district, had risen to 2,449. Cudal first appeared in a census enumeration in 1881 with a population of 235 persons, which in 1891, as a municipal district, had risen to 447.

The municipal population of the Division has increased only by 2,194 persons during the twenty-years' period under review, or by 1,163 during the first and by 1,031 during the second decade. The municipality of Dubbo had actually 103 fewer inhabitants in 1911 than in 1891, though it had gained 1,043 more in the second decade than it had in 1901. The population of this municipality was given as 4,555 in the census enumeration of 1891, in that of 1901 the municipal population was recorded as 3,409, but in addition were recorded: Dubbo—outside municipality, 1,083, and Dubbo-Newtown, 621, or a total of 5,113; and in 1911 the municipal population was given as 4,452, and that of the "Locality" as 5,368, from which it might be assumed that 916 inhabitants of Dubbo living outside municipal boundaries were thus accounted for. The extra population shown in 1901 was, however, due to the presence of a number of navvies, and other workers, engaged in the construction of the Dubbo-Coonamble Railway line, then stationed near the township. The municipality of Dubbo contains 2,671 acres, and its density of population ranged from 1.71 persons per acre in 1891 to 1.28 in 1901, and to 1.70 in 1911.

The municipality of Forbes gained 1,425 persons for the twenty years under review, or 1,283 during the first and only 142 during the second decade; and the density of population of its area of 32,000 acres ranged from 0.09 to 0.13, and to 0.14 at the successive census periods of 1891, 1901, and 1911. Parkes is one of those municipal centres, of which the State has many examples, that seemed to culminate in prosperity and populousness at the time of Australian Federation. In 1891 its inhabitants numbered 2,449, in 1901 they numbered 3,181, gaining 732 in the interval, by the loss of 246 they numbered 2,935 in 1911, the total gain for the twenty-years' period being only 486. Parkes municipal area of 10,080 acres fluctuated in density of population from 0.24 to 0.32, and from 0.32 to 0.29, for the three successive periods of 1891, 1901, and 1911.

Molong is a municipality which obtrudes partially into the county of Wellington and the Division of the Central Plateau. It covers 14,720 acres, but the bulk of the residents are in the county of Ashburnham and the Division of the Central-Western Declivity. The density of the population increased in persons per acre from 0.08 in 1891 to 0.09 in 1901 and 1911, the gain for the second decade being only 117, and for the first 142, or 259 for the whole period under review. The municipality of Cudal gained during twenty years only 127 inhabitants, winning 152 during the first and losing 25 during the second decade, and the population density of its area of 25,600 acres remained consistently at 0.02 persons per acre, or an average allotment of 50 acres per person.

The unincorporated townships or "Localities" of the census of 1911 showed an advance more consistent with that of the Division as a whole than did the municipalities, as will be seen from the subjoined table :—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Canowindra	Ashburnham and Bathurst	399	416	...	...	1,535
Coonabarabran	Gowen ... ..	...	...	580	662	1,172
Eugowra	Ashburnham	137	...	...	668	911
Coolah	Napier	263	254	...	...	765
Manildra	Ashburnham ... ..	...	379	—	...	653
Cumnock	Gordon	134	305	...	...	629
Cargo	Ashburnham ... ..	...	462	610	...	608
Goolagong	Forbes	146	153	...	...	534
Dubbo (outside municipality)	Lincoln and Gordon	—	—	—	1,083	—
Dubbo-Newtown	Lincoln	—	...	—	621	—
Total, over 500 Inhabitants		...	...	1,190	3,034	6,807

The unincorporated townships of the Division of the Central-Western Declivity have gained in population during the twenty years under review by 5,617 inhabitants, or 1,844 for the first and 3,773 for the second decade. Canowindra, an old goldfield, did not reach the urban standard until 1911, though its fluctuating population must have often been more than 500 in the days of its diggings' prosperity, a commentary of equal application to Cargo, Parkes, Forbes, and other places, the fortunes of which depended on the precarious discovery of rich deposits of gold at intervals sufficiently brief to avoid the catastrophe of abandonment.

Canowindra appeared in a census enumeration in 1871 with 179 inhabitants; it escaped individual recording in 1881, but reappeared in 1891 with 399, and in 1901 with 416 inhabitants. Its gain of 1,119 during the second decade of the period under review is indicative that it no longer depended upon the transient attraction of gold-winning for its basis of real progress.

Coonabarabran is essentially the agricultural centre of a district devoted to cereal farming, and in a less degree to stock-raising. Its progress has been methodically gradual. It appears in 1871 with a population of 262, by 1881 this had increased to 405, by 1891 to 580, it gained only 82 persons during the next ten years, but 510 during the last decade of the twenty years under review. Eugowra, famous in old bushranging annals for the robbery of the gold escort by Gardiner and his gang in 1862, is another old mining centre. In 1891 its population was listed as only 137, but it gained 774 inhabitants during the twenty-years' period, or 531 for the first and 243 for the second decade.

Coolah, in the county of Napier, first appearing in a census enumeration in 1881 with a population of 165, lost nine persons during the first and gained 511 during the second decade. Manildra appeared for the first time in a census enumeration in 1901 with 379 inhabitants, but during the second decade of the twenty years under review it gained 274 persons.

Cumnock, first appearing in a census table in 1891 with 134 inhabitants, gained 171 during the first and 324 during the second decade, or 495 during the twenty years intervening between the census periods of 1891 and 1911. The old mining town of Cargo dates from 1871 with 396 inhabitants, a population which had fallen to 286 in 1881, and risen to 610 in 1891. It

declined subsequently, and its population fell to 462, showing thus a loss of 148 on the previous enumeration. At the census of 1911 its population was 610, or two less than in 1891, and a gain of 146 on that of 1901.

Goolagong is an agricultural centre of an almost exclusively farming district, though pastoral pursuits are not unrepresented. It appears in a census enumeration in 1871 with 65 inhabitants, in 1881 its population had risen to 104, in 1891 to 146. During the twenty years succeeding, it gained 388 persons, or seven for the first and 381 for the second decade. To Dubbo—outside the municipality and to Dubbo-Newtown reference has already been made.

The following table shows the municipal and non-municipal urban, and the rural elements of the Division of the Central-Western Slope for the three census periods of 1891, 1901, and 1911 :—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Ashburnham	Municipal	7,019	...	9,328	...	9,316	...
	Non-municipal	610	...	668	...	3,707	...
	Total	7,629	6,400	9,996	7,273	13,023	5,298
Lincoln	Municipal	4,555	...	3,409	...	4,452	...
	Non-municipal	—	...	1,704	...	—	...
	Total	4,555	3,746	5,113	4,117	4,452	5,502
Gowen	Non-municipal	580	1,444	662	2,458	1,172	4,329
Forbes	"	—	3,208	—	3,911	534	4,336
Gordon	"	—	2,462	—	4,174	629	3,223
Napier	"	—	995	—	944	765	705
Grand Total		12,764	18,255	15,771	22,877	20,575	23,393

In the foregoing table the county of Ashburnham is credited with the major portion of the urban population of the Division, both of a municipal and of a non-municipal description. The municipal districts of Forbes, Parkes, Molong, and Cudal all lie wholly or approximately within its boundaries, besides the unincorporated townships of Canowindra, Eugowra, Manildra and Cargo. The town of Forbes is situated on the Lachlan River, which divides the two counties of Ashburnham and Forbes, but that part of the municipality which rests on the southern bank is by far the least populous. The figures are not available for 1911, but at the census of 1901 the part of the municipality of Forbes which lies in the county of Ashburnham contained 3,768 inhabitants out of a total of 4,294. The district surrounding the town is devoted to the cultivation of wheat, maize, barley, oats, and potatoes, oranges and grapes are grown, considerable quantities of wine are made, and sheep, horses, cattle, and pigs are included in the stock of the district. The town itself has wool-scouring establishments, breweries, and steam saw and flour mills.

Parkes, lying wholly in the county of Ashburnham, is situated on the Billabong Creek, which joins the Goobang Creek to form an affluent of the river Lachlan. It is a railway junction of great importance, and the centre of a district of a mineral as well as of an agricultural and a pastoral character.

Several valuable gold-reefs exist in the vicinity of the town, which possesses quartz-crushing batteries, besides flour and saw mills, and the usual civic services.

The municipality of Molong, situated on the creek of the same name, is a station on the Orange to Parkes Railway line, and its area intrudes into the county of Wellington, in the Division of the Central Tableland, but at the census of 1901, out of a total population for the municipal district of Molong of 1,254 the great majority, or 1,082, was recorded for the county of Ashburnham. The township retains many of its one-time mining characteristics, but though quartz-reefs are still worked for gold, copper-ore is extensively deposited throughout the district, and coal and the pigments of commerce have also been discovered. Agriculture is, however, the backbone of the surrounding country, the principal products being wheat, maize, oats, barley, potatoes, rye, and wine; sheep are grazed on a number of squattages; horse, cattle, and pig breeding is widely pursued, and much dairy produce, in the shape of butter, cheese, bacon, and hams, is sent regularly to Sydney.

Cudal is a small municipality on the Boree Creek, in a district principally agricultural, though gold is obtained in limited quantities near the township, which has a steam flour-mill, besides the usual stores, hotels, etc., of a provincial centre. It is practically stationary, and will probably become absorbed in the shire of Boree.

Canowindra, an unincorporated township on the Belubula River, an affluent of the Lachlan, lies partly in the county of Bathurst, in the Division of the Central Tableland, but at the census of 1901, out of a total population of 416 the majority, numbering 296, was resident in the county of Ashburnham—figures for 1911 are not available. Canowindra still yields a certain amount of gold, and copper abounds in the district, but the population is mainly agricultural and, in a less degree, pastoral. Eugowra, on the Mandagery Creek, is altogether within the boundaries of the county, but the gold of the district, particularly at the one-time rich alluvial diggings, is now practically worked out. Manildra and Cargo, both unincorporated agricultural centres, are within the county boundaries.

It is noteworthy that the municipal population of the county of Ashburnham, after gaining 2,309 persons during the first decade of the period under review, actually lost 12 in the second. The increase in Ashburnham's urban element is apparently ascribable to the growth of unincorporated townships, though the statement must be made with a certain degree of caution, for the overstatement of recorded population in municipal areas was 7.15 per cent., and it is certainly not probable that it was less with respect to "Localities" of undefined boundaries.

In 1891 Cargo was the only township in the county of Ashburnham having urban rank, and Eugowra was the only township similarly qualified in 1901. But in the census enumeration of 1911, the "Localities" of the apparent urban standard of qualification (namely, the possession of 500 inhabitants and upwards) included Canowindra, Eugowra, Manildra and Cargo.

As already pointed out, the total urban element, both municipal and non-municipal, in the county of Lincoln belongs entirely to Dubbo. The municipality lies on the east bank of the Macquarie River, which separates the counties of Lincoln and Gordon, and the extra-municipal town lies partly on the west bank, but as no figures relating to the distribution of the population are available for 1911, Dubbo and its environs have been taken together as being situated in the county of Lincoln. The town possesses a number of manufacturing works, including steam flour and saw mills, soap

and candle factory, tannery, breweries, and aerated-water factories. The district, which is mainly pastoral, does not provide its urban centre with those elements of progress which agriculture, with its closer settlement, provides, consequently Dubbo has made no increase in its population since 1891, though the population has fluctuated with successive census periods. Coal and copper have, however, been discovered in its vicinity, and free selection is gradually acquiring some of the pastoral areas for the cultivation of wheat, oats, and maize.

Coonabarabran is the one township which represents the urban element in the county of Gowen. It contains the usual stores, hotels, and civic services and conveniences, steam flour-mills and fruit-canning establishments, and it is the centre of a district devoted to agriculture and pastoral pursuits. Coolah, situated on the Coolaburragundy Creek, was similarly the sole representative of the urban element in the county of Napier, but the township is much less favourably served by the surrounding country, which is intersected with ranges, and presents areas of land intractable to cultivation. The urban element in the county of Gordon is represented by the unincorporated township of Cunnock, the centre of a district mainly agricultural and pastoral. Goolagong, on the river Lachlan, is the unincorporated centre of a fine agricultural district, and the only township, excepting the municipality of Forbes itself, which represented the urban element in the county of Forbes.

The whole Division shows first a rapid and then a gradual growth in its rural population, which would probably be shown as greater but for the vagueness surrounding the term "Locality." It is, for instance, hardly conceivable that the progressive county of Ashburnham, after adding 873 persons to its rural population during the first decade of the twenty years under review, should lose 1,975 during the second, or 1,102 since the census of 1891.

In the counties of Lincoln and Forbes, the rural population has considerably increased, notwithstanding the appearance of an increasing urban element. In the county of Gordon there was an increase during the first and a declension during the second decade. In the county of Napier, owing doubtless to natural disabilities, the decline in the rural element of the population, though at first slow, has been continuous, and since 1901 highly serious.

The following statement shows the municipal and non-municipal urban and the rural elements in the constitution of the population of the Division for the three census periods of 1891, 1901, and 1911 :—

	1891.	1901.	1911.
Municipalities	11,574	12,737	13,768
Unincorporated Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards ...	1,190	3,034	6,807
Total, Quasi-urban	12,764	15,771	20,575
Remainder of Division (Rural) ...	18,255	22,877	23,393
Total, Division ...	31,019	38,648	43,968

The occupations of the people in the Division of the Central-Western Slope were primarily agricultural, closer settlement having largely superseded the huge holdings rendered necessary for the depasturing of large flocks of sheep. Of the 18,518 breadwinners of both sexes in the Division, 9,867 were primary producers, and of these 7,029 followed agriculture. The industrial class came next, with 3,153 persons of both sexes, whereas the followers of pastoral pursuits numbered only 2,123, and the miners (all males) 234. "Other" primary producers, numbering 481 (all males),

included 309 engaged in forestry, 149 hunters and trappers, 20 engaged in the conservation and supply of water, and 3 fishermen. In the Class "Transport and Communication" were enumerated 590 persons engaged on railways, 450 in traffic on roads, and 6 only in traffic on waterways. The industrial class included 358 workers in foods, etc., and 1,255 engaged in construction and building, including the construction of railroads.

The following table shows the constitution of the population of the Division, arranged according to the occupations of the people, for the census of 1911:—

Sex	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	16,028	6,860	2,100	234	481	9,675	2,890	1,563	639	667	393	196	6,353
Females..	2,490	169	23	..	..	192	263	216	36	409	1,237	87	2,298
Total ..	18,518	7,029	2,123	234	481	9,867	3,153	1,779	675	1,076	1,635	283	8,651

The total population of the area comprised in the six counties which constitute the Division of the Central-Western Declivity was, at the time of the last census, 43,968, to which total the breadwinning classes contributed 18,518, or 16,028 males and 2,490 females, and the class of dependents on natural guardians numbered 25,154, or as 1.36 to 1 of breadwinners of both sexes. The total number of persons classed as primary producers was 9,867, inclusive of 192 females. Throughout the Division there were 1,287 females engaged in domestic service and attendance, or a proportion of 6.95 per cent. of the total number of breadwinners of both sexes. On the basis of distribution previously explained, the number of dependents domiciled with the primary producers of the Division was 13,419, and of domestics engaged in service and attendance 685, making together a total of 23,971 persons.

In connection with the dependents on natural guardians, it is necessary to note that the census enumeration of 1911 showed 169 females as engaged in agriculture, and 23 in pastoral pursuits, or a total of 192 females engaged in these two branches of primary production, and the police returns as at 31st March, 1911, recorded respectively 355 as engaged in agriculture and 213 in dairying, or a total of 568 in these two branches of primary production, hence 186 females partially engaged in agriculture, and 190 partially engaged in pastoral pursuits, or a total of 376 females partially engaged in primary production, and partially engaged in the discharge of domestic duties, were included in the Class "Dependents on Natural Guardians" in the census classification of 1911.

In this, as in the case of other Divisions of the State, the police returns relating to occupations define more amply than the census records the rural element in the population. It is nevertheless interesting to note that the population of the "Remainder of the Division," that is, the rural population, after deducting the population of municipalities and of "Localities" not otherwise defined, of 500 inhabitants and upwards, is stated as 23,393 for the census year 1911; and that the population based on those engaged in primary production, their dependents and domestics, should result in so close an approximation as 23,971. This close agreement between the two sets of figures may be taken as another evidence that where the disturbing element of mining is wholly or even partially eliminated, the quasi-urban centre can

be the more closely defined and determined, and primary production can the better be assigned the appropriate and natural sphere of its activities.

The primary producers as related to the other classes of breadwinners in the Division of the Central-Western Declivity are shown hereunder, as at the census enumeration of 1911 :—

Class—Primary Producers	9,867
„ Industrial	3,153
„ Commercial	1,779
„ Domestic	1,685
„ Professional	1,076
• „ Transport and Communication	675
„ Independents	283
Total	18,518

For purposes of the administration of the Local Government Acts, the Division of the Central-Western Declivity, or Slope, has been subdivided into thirteen shires, or portions of shires, which, with their headquarters, are as follow :—

Shire.	Headquarters.	Shire.	Headquarters.
Wingadee	Coonamble.	Amaroo	Cummock.
Coonabarrabran	Coonabarrabran.	Jemalong	Forbes.
Gilgandra	Gilgandra.	Boree	Cudal.
Talbragar	Dubbo.	Weddin	Grenfell.
Cobbora	Genrie.	Waugoola	Cowra.
Coolah	Coolah.	Macquarie	Wellington.
Goobang	„ Parkes.		

Only the fringes of some of the foregoing shires obtrude into the Division of the Central-Western Declivity, while half of some, and two-thirds of others, fall within its boundaries. The northern part of the Division begins in the south-east corner of the shire of Wingadee and the south-west corner of the shire of Coonabarrabran, and the southern part ends in the northern section of the shire of Weddin and the north-western section of the shire of Waugoola. The eastern boundary of the Division is roughly that of the eastern boundary of the shire of Coonabarrabran, passing through the shire of Coolah along the course of the river Coolaburragundy, including the northern section of the shire of Cobbora, as far as the village of Dunedoo; thence curving southward through the small north-eastern corner of Macquarie Shire, and enclosing the western part of the shire as far as the Bell River, together with the shires of Amaro and Boree, and taking in the north-western corner of Waugoola Shire.

The western boundary of the Division follows the Castlereagh through the centre of the shire of Wingadee, and then approximately that of the western boundary of the shire of Talbragar, whence it bisects the shire of Goobang west of Parkes and the shire of Jemalong west of Forbes. The municipality of Coonamble, the headquarters of the shire of Wingadee, is in the Division of the Central-Western Plain, as is also the unincorporated town of Gilgandra, the headquarters of the shire of the same name. The municipality of Cowra, the headquarters of the shire of Waugoola, and the municipality of Wellington, the headquarters of the shire of Macquarie, are in the Division of the Central Tableland, and the municipality of Grenfell, the headquarters of the shire of Weddin, is in the Division of the South-Western Slope. Dubbo, the headquarters of the shire of Talbragar, Parkes of Goobang, Forbes of Jemalong, and Cudal of Boree, are all themselves incorporated as municipalities. Coonabarrabran, Gilgandra, and Coolah, all unincorporated townships, have their names duplicated in the shires to which they subserve the purposes of administrative headquarters.

THE DIVISION OF THE SOUTH-WESTERN SLOPE.

The Division of the South-Western Slope, or the Great Inland Declivity of Eastern Australia, consists of the eight counties of Bland, Montegale, Clarendon, Harden, Wynyard, Buccleuch, Goulburn, and Selwyn, and covers an area of 12,791 square miles.

It is bounded on the north by a surveyed line westward of the Barmen Creek, running roughly parallel with it, and forming part of the southern boundary of the county of Gipps and of the Division of the Central-Western Plain, by the lower part of the Bland or Yeo Yeo Creek, the Caragabal Creek, the Wheoga Range, the Pinnacle Range, the Weddin Mountains, the Mount Sugarloaf Range, the Conimbla Range, the Broula Range, the Crowther Range, the Warrangong Creek (approximately), the Bang Bang Creek, the Illunie Mountains, Mount Collins, and the Battery Range.

It is bounded on the south by the Murray and the Indi Rivers.

It is bounded on the east by the Boorowa River, the Limestone Creek, the Bowring Hill Range, a short bend of the Murrumbidgee River, the Goodradigbee River, Peppercorn Creek, the Fiery Range (approximately), the Yarrangobilly Range, the Muncyang Range, and the Snowy Mountains.

It is bounded on the west by a range of mountains running south-east from the head-waters of the Euglo Creek, near the township of Ungarie, to the township of North Wagga Wagga, and including Mount Birren-Birrenbed, the Bull Beds, the Buggajoul Range, Victor's, Warrim, and Lighthouse Hills, and The Gap; from North Wagga Wagga by an irregular surveyed line connecting the boundary with a range of mountains running south-east to the northern boundary of the county of Goulburn, where it meets a lateral range (near the village of Burngoogee), which it follows westward to Jerra Jerra; thence southward by Cow's Head, Peddles, and Cookardinia Hills; thence by an irregular surveyed line connecting with the Yambula range of mountains; and thence south-westward and southward to the Murray River.

This south-eastern corner of the Division has been denominated by geologists the "Roof of Australia," as containing the ridge from which the Continent falls on the eastern side abruptly to the Pacific Ocean, and on the western by a gradual declivity which reaches a level of plain stretching to the shores of the Indian Ocean.

The counties of Selwyn, Wynyard, Clarendon, and Bland are to some extent gold-bearing, and thus show their geological connection with the southern and central plateaux, from which they descend. The Division connects two large mining districts within its area, namely, those of the Lachlan, and the Tumut and Adelong. Places used as administrative centres to surrounding auriferous territory are Barmen, Cootamundra, Grenfell, Gundagai, Murrumburrah, Temora, Wyalong and Young, which are all within the Lachlan Mining District, and Adelong, Tumut, Batlow, Tumbarumba and Wagga Wagga are within the Tumut and Adelong Mining District.

The agricultural interest predominates in the Division, but the industrial class is considerably in excess of those who follow pastoral pursuits. In the future there may be developments in manufacturing industries at the place of production of raw material, but hitherto, except in such instances as Newcastle and Lithgow, few centres of specialised manufactures have existed outside the metropolis. When the problems affecting secondary production, and the treatment of primary products to fit them for commercial exchange, have been more minutely investigated, the development of the

South-Western Declivity and the Southern Plateau will be continuous, on account of the vast reserves of motive-power in the numerous watercourses, which are now neglected.

The following table shows the constitution of the population in counties of the Division of the South-Western Slope, at the three census periods under review, together with the density of population per square mile:—

County.	Area in square miles.	Population.			Density of persons per sq. mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Wynyard	1,725	12,526	15,051	16,385	7·26	8·73	9·50
Harden	1,680	9,711	10,717	13,140	5·78	6·38	7·82
Monteagle	1,299	8,955	9,784	11,536	6·89	7·54	8·89
Goulburn	1,347	9,236	10,051	11,171	6·85	7·46	8·29
Bland	2,423	4,571	7,392	10,412	1·88	3·05	4·30
Clarendon	1,200	6,448	8,459	9,503	5·37	7·05	7·92
Buccleuch	1,370	2,206	2,480	2,581	1·61	1·81	1·88
Selwyn	1,747	1,993	2,364	2,412	1·16	1·35	1·38
Total	12,791	55,646	66,298	77,140	4·35	5·18	6·03

The progress of the division has been satisfactory and regular, the increase in the population for the twenty years under review being 21,494 persons, or 10,652 for the first and 10,842 for the second decade, and the density of persons per square mile ranged from 4·35 in 1891 to 5·18 in 1901, and to 6·03 in 1911. The greatest proportional increase was shown by the county of Clarendon, the population of which grew by 2,011 persons during the first and by 1,044 during the second decade, or by 3,055 for the twenty years under review, the density ranging from 5·37 to 7·05 and to 7·92 persons per square mile. The greatest numerical increase was shown by the county of Bland, which added 5,841 persons to its population during the twenty years, or 2,821 for the first and 3,020 during the second decade, the density ranging from 1·88 to 3·05 and to 4·30 persons per square mile.

The county of Clarendon contains the municipal districts of Gundagai and Junee, and the county of Bland the municipal districts of Temora and Wyalong, and the unincorporated townships of Barmedman and Stockinbingal. The county of Wynyard is the most densely populated in the group forming the Division. In 1891 it contained 12,526 inhabitants, and gained 2,525 during the first and 1,334 during the second decade, or 3,859 for the twenty years under review, the density ranging from 7·26 in 1891 to 8·73 in 1901, and to 9·50 in 1911. The county of Wynyard contains the municipal districts of Tumut and Wagga Wagga, and the unincorporated townships of Adelong, South Gundagai, and Tarcutta.

The second county of the Division in point of population, but fifth in order of density, is Harden, which, with 9,711 inhabitants at the census of 1891, gained 1,006 during the first and 2,423 during the second decade, or 3,429 during the twenty years under review, the density of population ranging from 5·78 in 1891 to 6·38 in 1901, and to 7·82 in 1911. This county contains the municipal districts of Cootamundra, Murrumburrah and Wallendbeen, and the unincorporated townships of Binalong, Wombat, and Burrinjuck, the nearest centre of importance to the last-named being the municipal town of Yass, in the Division of the Southern Tableland.

Monteagle is the third county of the Division in point of population and the second in order of density. In 1891 it possessed 8,955 inhabitants, which increased by 829 during the first and by 1,752 during the

second decade, or by 2,581 during the twenty years under review, the density ranging from 6·89 persons per square mile in 1891 to 7·54 in 1901, and to 8·89 in 1911. The county contains the municipal districts of Grenfell and Young, and the unincorporated township of Murringo, or Marengo.

Goulburn is the fourth county in the Division in point of population, and the third in density of population, which in 1891 numbered 9,236. During the twenty-years' period under review it gained 1,935 persons, or 815 for the first and 1,120 for the second decade, the density ranging from 6·85 in 1891 to 7·46 in 1901, and to 8·29 in 1911. The county of Goulburn contains the municipal borough of Albury and the unincorporated townships of Lavington and Holbrook (late Germanton).

Reference has already been made to the counties of Bland and Clarendon, the fifth and sixth of the Division in point of population, and the sixth and fourth in order of density respectively. The county of Buccleuch, with 2,206 inhabitants at the census of 1891, gained 375 persons to its population during the twenty years under review, or 274 for the first and 101 for the second decade, the density ranging from 1·61 persons per square mile in 1891 to 1·81 in 1901, and to 1·88 in 1911. It possessed no urban population at the census of 1911.

Of the eight counties of the Division of the South-Western Slope, Selwyn stands last on the list, both in point of population and in order of density. In 1911 it had 1,993 inhabitants, and it gained 419 during the twenty years under review, or 371 for the first and 48 for the second decade, the population ranging from 1·16 in 1891 to 1·35 in 1901, and to 1·38 in 1911. The urban element in the county of Selwyn was represented by the unincorporated mining township of Tumarumba.

The following table shows the population of municipalities in counties at the three census periods under review :—

Municipality.	County.	1891.	1901.	1911.
Wagga Wagga	Wynyard and Clarendon ...	4,596	5,108	6,419
Albury	Goulburn	5,447	5,823	6,509
Young	Monteagle	2,746	2,755	3,133
Cootamundra	Harden	2,026	2,424	2,967
*Temora	Bland	*	1,603	2,784
Junee	Clarendon	1,682	2,190	2,531
Murrumburrah	Harden	1,226	1,448	2,136
Tumut	Wynyard	1,275	1,391	1,517
Gundagai	Clarendon	948	1,487	1,181
Grenfell	Monteagle	745	869	1,145
*Wyalong	Bland and Gipps	*	1,515	1,042
*Wallendbeen	Harden and Bland... ..	*	736	1,019
Total, Municipalities		20,691	27,349	32,189

* Temora was incorporated on 22nd December, 1891, Wallendbeen on 21st May, 1892, Wyalong on the 19th December, 1899.

Of the foregoing twelve incorporated towns the first seven were proclaimed as boroughs and the remaining as municipal districts. Albury and Gundagai appeared first in a census enumeration in 1846, Wagga Wagga and Tumut in 1851, Murrumburrah in 1861, Young, Cootamundra, Temora and Grenfell in 1871, Junee in 1881, Wallendbeen in 1891, and Wyalong in 1901.

The population of Albury in 1846 was 65 persons, in 1851 it was 442, in 1856 it was 645, in 1861 (then a borough) it was 1,587, in 1871 it was 2,592, and in 1881 it was 5,715. The population of Gundagai in 1846 was 87 persons, in 1851 it was 397, in 1856 it was 347, in 1861 it was 484, in 1871 it was 785, in 1881 it was 554, and in 1891 (then a municipal district) it was 948.

The population of Wagga Wagga in 1851 was 221 persons, in 1856 it was 336, in 1861 it was 627, in 1871 (then a borough) it was 1,858, and in 1881 it was 3,975. The population of Tumut in 1851 was 64 persons, in 1856 it was 256, in 1861 it was 432, in 1871 it was 555, in 1881 it was 787, and in 1891 (then a municipal district) it was 1,275.

The population of Murrumburrah in 1861 was exactly 100 persons, in 1871 it was 182, in 1881 it was 1,620, and in 1891 (then a borough) it was 1,226. The population of Young in 1871 was 792 persons, in 1881 it was 1,517, and in 1891 (then a borough) it was 2,746. The population of Cootamundra in 1871 was 237 persons, in 1881 it was 938, and in 1891 (then a borough) it was 2,026. The population of Temora in 1871 was 3,254, and in 1881 (then a borough) it had fallen to 915. The population of Grenfell in 1871 was 1,657, in 1881 it was 1,575, and in 1891 (then a municipal district) it was 1,832, of which the incorporated portion contained 745 inhabitants, and the area outside the boundaries of the municipality 1,087.

Wallendbeen in 1891, when it first appeared in a census enumeration, had a population of 189 persons, in 1901 (then a municipal district) it had 736. Wyalong's first appearance was as a municipal district with 1,515 inhabitants.

The municipal population of the Division at the census of 1891 was 20,691, and, during the first decade of the period under review, it gained 6,658 persons, 4,840 for the second decade, and 11,498 for the combined twenty years, advancing by over 32 per cent. for the first and over 17½ per cent for the second decade, or over 55½ per cent. for the period marked by the census years of 1891 and 1911. Part of this addition to the municipal population was due to the inclusion of Temora, Wyalong and Wallendbeen as municipal districts. The goldfield of Wyalong in the Lachlan Mining District was discovered and developed subsequent to the census enumeration of 1891, but its progress was so rapid that it was proclaimed an incorporated area on the 19th December, 1899. Wallendbeen, a small township in the county of Harden, was proclaimed a municipal district on the 21st May, 1892.

Of the remaining ten municipalities in the Division of the South-Western Declivity, Grenfell was proclaimed a municipal district on the 3rd May, 1883, Tumut on the 27th April, 1887, and Gundagai on the 14th August, 1889. The seven other incorporated areas were all proclaimed as boroughs: Albury, the oldest, on the 4th June, 1859, Wagga Wagga on the 15th March, 1870, Young on the 3rd August, 1882, Cootamundra on the 20th May, 1884, Junee on the 26th July, 1886, Murrumburrah on the 25th February, 1890, and Temora on the 22nd December, 1891.

In 1891 the borough of Wagga Wagga had 851 fewer persons within its incorporated area than the borough of Albury, and in 1901 Albury led by

715, but in 1911 Wagga Wagga had 110 persons in excess of the population of Albury. In 1891 Wagga Wagga had 4,596 persons within its municipal area, and its gain during the ten years that ended at the census of 1901 was 512 persons, and 1,311 for the succeeding ten years, or 1,823 for the two decades, the density of population ranging from 0.80 to 0.89, and from 0.89 to 1.11 persons per acre.

Nevertheless, though Wagga Wagga gained upon and overtook Albury in the incidence of populousness, the latter borough was not in any way retrograding. In 1891 its population was recorded as 5,447, and its gain during the twenty years under review was 862, or 376 for the first decade and 486 for the second, the density of population ranging from 0.29 to 0.32, and from 0.32 to 0.34 persons per acre for the successive census periods of 1891, 1901, and 1911. In comparative density of population, in connection with the urban standard of concentration of services and civic conveniences, the advantage is altogether with Wagga Wagga, which, with a population of 6,419, and a density per acre of 1.11 persons, had an area of 5,766 acres, or a trifle over 9 square miles, as against Albury, which, with a population of 6,309, and a density per acre of 0.34, had an area of 18,460 acres, or nearly 29 square miles.

The borough of Young, with an area of 3,400 acres, or approximately $5\frac{1}{2}$ square miles, had a population density of 0.81 persons per acre in 1891 and in 1901, which rose to 0.92 in 1911. The population of this municipal centre in 1901 was little different from that in 1891, namely 2,746 and 2,755, for the census periods cited in their chronological order, but at the census of 1911 it was 3,139, thus showing a gain of 384 on the population of the preceding census enumeration, or of 393 on the whole twenty-years' period.

The borough of Cootamundra, with an area of 6,080 acres, or $9\frac{1}{2}$ square miles, had successive densities for the three census periods under examination of 0.33, 0.40 and 0.49, the population increasing during the twenty-years' period from 2,026 to 2,967, thus showing a gain of 941 persons, or 398 for the first and 543 for the second decade. Temora, also a borough, with an area of 5,760 acres, or 9 square miles, had successive densities of 0.16, 0.28, and 0.48 persons per acre, the population increasing from 915 in 1891 to 1,603 in 1901, and to 2,784 in 1911, and showing successive gains of 688 and 1,181 for the two decades, and 1,869 for the whole period of twenty years under review.

The borough of Junee, with an area of 5,517 acres, or somewhat over $8\frac{1}{2}$ square miles, had a population density for the three census periods respectively of 0.30, 0.40 and 0.46 persons per acre. The population, which, at the census of 1891 numbered 1,682, rising in 1901 to 2,190, and in 1911 to 2,531, thus showing an increase for the whole twenty-years' period under review of 849 persons, or 508 for the first and 341 for the second decade. The borough of Murrumburrah, with an area of 5,120 acres, or 8 square miles, had a population density rising from 0.24 to 0.28 and to 0.42 for the three census periods, the population increasing from 1,226 in 1891 to 1,448 in 1901, and to 2,136 in 1911, thus showing a respective ten-years' increase of 222 and 688, or of 910 for the whole twenty years under review.

The municipal district of Tumut, with an area of 1,120 acres, or a square mile and three-quarters, had a density rising from 1.14 to 1.24 and to 1.35 for the three census periods, the population increasing from 1,275 in 1891 to 1,391 in 1901, and to 1,517 in 1911, thus showing a respective ten-

years' increase of 116 and 126, or of 242 persons for the whole period of twenty years under review. The municipal district of Gundagai, with an area of 2,080 acres, or three and a quarter square miles, had a density at the three census periods, ranging from 0·46 to 0·71, and from 0·71 to 0·57. At the census of 1891 the population of Gundagai was 948, in 1901 it had increased by 539, but lost 306 during the succeeding decade, the total gain for the twenty years under review being only 233 persons.

The municipal district of Grenfell, with an area of 346 acres, or a little over half a square mile, and a population in 1891 of 745, had a density of 2·15 persons to the acre, in 1901 a population of 869 and a density of 2·51, and in 1911 a population of 1,145 and a density of 3·31. Grenfell's total increase in population for the period of twenty years under review was exactly 400 persons, or 124 for the first and 276 for the second decade. The area of the municipal district of Wyalong is 32,000 acres, or fifty square miles, and its density ranged, for each of the last two census periods of 1901 and 1911, from 0·05 to 0·03, for mining is being superseded by agriculture, and the district is consequently experiencing a less compact habitancy. The population of Wyalong, which in 1901 was 1,515 persons, stood at the last census at 1,042, thus showing a falling-off of 473 persons. The municipal district of Wallendbeen, with an area of 63,360 acres, or 99 square miles, increased its 1901 population of 736 persons by 283 during the last decade of the twenty years' period under review, and its density from 0·01 to 0·02 persons per acre.

The unincorporated townships of the Division of the South-Western Declivity present widely different results. In the year of the census of 1891, two only were qualified as urban centres, namely Adelong, with 1,173 inhabitants, and the extra-municipal goldfield town of Grenfell, with 1,087. At the census of 1901, besides Adelong and Grenfell, with respective populations of 1,410 and 1,322, two others appeared in the unincorporated townships of Germanton (since re-named Holbrook), with 560 inhabitants, and Tumbarumba, with 860.

Adelong is an old settlement, and appeared first at the census enumeration of 1861 with a population of 186, in 1871 it had risen to 864, and in 1881 it had decreased to 753. During the twenty years under review Adelong gained 693 persons to its population, or 237 for the first and 456 for the second decade. Grenfell appeared in a census enumeration in 1871 as a goldfield, with a population of 1,657 persons, in 1881 it had fallen to 1,575, in 1883 a portion of the area, on the south-eastern bank of the Emu Creek, was proclaimed a municipal district, but at the census of 1891, the extra-municipal township, which was situated on both sides of the creek, lying partly in the county of Forbes and partly in that of Monteagle, had a population of 1,087, which in 1901 was increased by 235, and in 1911 by 540, or for the whole of the period of twenty years under review by 775.

Germanton, or Holbrook, as it was re-named during the War, appeared for the first time in a census enumeration in 1881, with 462 inhabitants which total had fallen to 393 in 1891. During the twenty years, 1891-1911, Holbrook gained to its population 776 persons, or 167 for the first and 609 for the second decade. Tumbarumba, a goldfield in the county of Selwyn, appeared in the census of 1871 with 375 inhabitants, a number which had risen to 690 in 1881, and then fallen to 496 in 1891. During the twenty years, 1891-1911, Tumbarumba had gained 443 persons to its population, or 364 for the first and 79 for the second decade. The remaining unincorporated townships of the Division were not of a standard sufficiently high to appear as urban centres in the census returns of 1891 and 1901.

The subjoined table shows the population of unincorporated towns and villages (1891 and 1901) and "Localities" not otherwise defined (1911), at the three successive census periods under examination:—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Adelong	Wynyard ... ..	...	...	1,173	1,410	1,866
Grenfell (outside municipality).	Monteagle and Forbes	...	...	1,087	1,322	1,862
Holbrook (late Germanton)	Goulburn	393	...	...	560	1,169
Tumbarumba	Selwyn	496	...	...	860	939
Barmedman	Bland	176	293	...	...	884
Burrinjuck	Harden ... ..	...	...	...	...	768
Murringo (Marengo) ...	Monteagle	139	—	...	...	603
Lavington	Goulburn ... ..	...	...	...	...	586
Binalong	Harden	344	369	...	...	524
Tarcutta	Wynyard	196	302	...	...	520
Wombat	Harden	329	392	...	...	516
Stockinbingal	Bland ... ..	...	144	...	...	508
	Total ... ..	...	...	2,260	4,152	10,745
* Temora	Bland ... ..	...	...	915	...	Under 500
South Gundagai	Wynyard	476	411	...	...	...
Adelong Road ... ..	"	...	...	...	...	54
Adelong Crossing	"	244	301	...	...	...
Middle Adelong	"	...	122	...	...	...
Upper Adelong	"	...	51	...	...	...
Tumut Common	"	...	66	...	...	...
† Wallendbeen	Harden and Bland	189	...	...	†	...
	Total, over 500 Inhabitants	...	...	3,175	4,152	10,745

* Temora was proclaimed a borough, 22nd December, 1891. † Wallendbeen was proclaimed a municipal district, 21st May, 1892.

Barmedman, an original goldfield in the Lachlan Mining District, first appeared in a census enumeration in 1891 with 176 inhabitants. During the twenty years under review it gained 708 persons to its population, or 117 for the first and 591 for the second decade. Burrinjuck was a new settlement, mainly of workmen employed in the construction of the great barrage, and its population of 768 persons in 1911 included very few who were not associated in this work. Murringo (sometimes appearing as Marengo) had its origin in the gold-seeking days, and first appeared in a census enumeration in 1881 with 1,003 inhabitants, a population which, at the succeeding enumeration, fell to 139. During the twenty years 1891–1911, it gained 464 persons to its population, but did not appear in the census enumeration of 1901, being probably comprised in the district of Monteagle. Lavington is so close to Albury as to constitute almost a suburb of that town, though it claims individual entity as the centre of a fruit-growing and small-farming area. It made its first appearance in the census records of 1911.

Binalong is an old settlement, and appeared first in the census enumeration of 1851 with a population of 113 inhabitants, which in 1856 had increased to 199, and in 1861 to 210, but in 1871 had declined to 189, and in 1881 to 179. In 1891 it was recorded as 344, and during the twenty years under review Binalong gained 180 persons, or 29 for the first and 155 for the second decade. Tarcutta made its first appearance in a census enumeration in 1891 with 196 inhabitants, and during the twenty years 1891–1911 it gained 324 persons, or 106 for the first and 218 for the second decade.

Stockinbingal appeared first in the census enumeration of 1901 with a population of 144 inhabitants, and gained 364 persons during the ten years 1901-11.

The municipal district of Gundagai is situated in the county of Clarendon, but South Gundagai lies on the other side of the boundary, in the adjoining county of Wynyard. It first appeared in the census records of 1871 with 223 inhabitants, which increased to 233 in 1881, and to 476 in 1891. During the ten years 1891-1901 it lost 65 persons, and does not appear at all in the census of "Localities" for 1911, its population being merged in all probability into that of Gundagai proper.

Adelong Road, Adelong Crossing, Middle Adelong, Upper Adelong, and Adelong proper are all situated in the county of Wynyard, and they all take their names from their varied vicinity to the Adelong Creek. Adelong Crossing appeared first in the census records of 1891 with a population of 244 inhabitants, and it gained 57 persons in the succeeding ten years, but is not given in the census of "Localities" for 1911, its place being probably taken by Adelong Road, with 54 inhabitants. Middle Adelong and Upper Adelong appear only in the census enumeration of 1901, with respective populations of 122 and 51 inhabitants. Tunut Common also appeared only in the census enumeration of 1901, with a population of 66 inhabitants, and it is obviously an extension outside its boundary of the municipal district.

The following table shows the municipal and non-municipal urban, and the rural elements of the Division of the South-Western Declivity for the three census periods of 1891, 1901, and 1911 :—

County.	Incorporated and Unincorporated.	Population.					
		1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Wynyard ...	Municipal...	5,871	...	6,499	...	7,936	...
	Non-municipal ...	1,173	...	1,410	...	2,386	...
	Total ...	7,044	5,482	7,909	7,142	10,322	6,063
Harden ...	Municipal...	3,252	...	4,608	...	6,122	...
	Non-municipal ...	—	...	—	...	1,808	...
	Total ...	3,252	6,459	4,608	6,109	7,930	5,210
Monteagle...	Municipal...	3,491	...	3,624	...	4,284	...
	Non-municipal ...	1,087	...	1,322	...	2,465	...
	Total ...	4,578	4,377	4,946	4,838	6,749	4,787
Goulburn ...	Municipal...	5,447	...	5,823	...	6,309	...
	Non-municipal ...	—	...	560	...	1,755	...
	Total ...	5,447	3,789	6,383	3,668	8,064	3,107
Bland ...	Municipal...	—	...	3,118	...	3,826	..
	Non-municipal ...	915	...	—	...	1,392	..
	Total ...	915	3,656	3,118	4,274	5,218	5,194
Clarendon ...	Municipal...	2,630	3,818	3,677	4,782	3,712	5,791
Buccleuch ...	...	—	2,206	—	2,480	—	2,581
Selwyn ...	Non-municipal ...	—	1,993	860	1,504	939	1,473
Grand Total ...		23,866	31,780	31,501	34,797	42,934	34,206

The unincorporated townships of the Division apparently gained in population during the twenty years under review by 8,485 inhabitants, or 1,892 for the first and 6,593 for the second decade. The entire urban element in the Division apparently gained in population during the twenty years under review by 19,068 inhabitants, or 7,635 for the first and 11,433 for the second decade. But the figures representing the urban element are subject to severe suspicion, especially with respect to the census of "Localities" for 1911, when over-statement with regard to municipal populations in this Division within ascertained boundaries amounted to 21·6 per cent., and even with respect to earlier figures, those for instance presented in the enumeration of the census of 1891, the Statistician considered it necessary to append to the table of "Towns, Villages, and Specified Localities," the remark, "Many of the localities included in this Table cannot strictly be designated Towns, but are essentially agricultural, pastoral, or mining centres."

The county of Wynyard, with the largest population of any county in the Division, has also the largest urban element in its population. Within its boundaries are the municipal centres of Wagga Wagga and Tumut, and the unincorporated townships of Adelong and Tarcutta. Wagga Wagga, situated in a rich pastoral and agricultural district on the south bank of the Murrumbidgee River, 309 miles south-west from the metropolis, and connected with it by the Great Southern Railway line, is destined to a great commercial future as the urban clearing-house for the South-Western Slope. It possesses every civic service and social convenience, and its production of wheat, maize, barley, oats, potatoes, tobacco, rye and wine, its results in the stock-breeding of horses, cattle, sheep and pigs, and its manufacture of butter, cheese, bacon and hams, and the food-products of other secondary industries, combine to constitute it the leading town of the South-West. A small part of the area of Wagga Wagga obtrudes into the county of Clarendon. The figures of distribution are not available for the census of 1911, but at the census of 1901, out of a total population for Wagga Wagga of 5,108 inhabitants, 4,647 were resident in the county of Wynyard. The whole population has, therefore, been ascribed to that county for 1911.

Tumut, situated on the south bank of the river of the same name, is likewise the centre of a district prosperously productive in wheat, maize, barley, oats, potatoes, tobacco, wine, horses, sheep, cattle, pigs, butter, cheese, bacon and hams. Tumut is essentially the headquarters of a countryside devoted to the agricultural and pastoral interests of primary production, and was once, for a short time, prominent as one of the centres under consideration for selection as the Federal Capital Site.

The unincorporated town of Adelong is situated on a creek of the same name, in the midst of a mining region, and one of the oldest auriferous territories in the State, its quartz-reefs being both rich and numerous, while the beds and the banks of its creeks are still searched for their alluvial tribute of gold. The Great Victoria claim won payable quartz when it had driven down its shafts for over a 1,000 feet, and was rewarded by the donation of the Government bounty of £1,000 for the first discovery of remunerative ore at a greater perpendicular depth than 800 feet. Tarcutta, though at present slowly advancing, was once another prosperous goldfield. The district around it is now principally taken up for pastoral purposes, tobacco is grown in some parts, however, and several gold-reefs are still being worked in the neighbourhood of the township.

The urban element in the county of Harden was represented by the boroughs of Cootamundra and Murrumburrah, the municipal district of Wallendbeen, and the unincorporated townships of Burrinjuck, Binalong, and

Wombat. Cootamundra is the centre of a richly-endowed district devoted to mining, pastoral, agricultural and horticultural pursuits, particularly specialising in the production of wheat. Sheep-breeding and wool-growing are leading industries, and the town itself has breweries and aerated-water factories.

Murrumburrah is situated on the Currawong Creek, and marks the junction of the Great Southern Railway with the South-Western system. This centre possesses a steam flour-mill, stores, and the usual public services, and the Blind Creek Diggings and the Cullingar Quartz Reef are in the neighbourhood. Wallendbeen has already been sufficiently referred to. Burrinjuck, in its present stage of development, is little more than a workers' encampment, and Binalong and Wombat are alike small townships in the midst of agricultural and pastoral districts.

It is necessary to state in passing, that although Wallendbeen is listed as lying partly in the county of Harden, and partly in that of Bland, the location of this municipal district is given as a centre of the former. Figures of distribution are not available for 1911, but those for 1901 show that of a total population of 736, the majority of Wallendbeen's inhabitants, namely 717, were in the county of Harden.

The urban element in the population of the county of Monteagle was represented by the borough of Young, the municipal district of Grenfell and the unincorporated townships of Grenfell (outside the municipality) and Murringo. Young is situated on the north bank of the Burrangong or Main Creek, 250 miles south-west from Sydney, and rests on the Harden-Blayney Railway line, which links up communication with the north, south, south-west and west. Gold was discovered here in June, 1860, and the Burrangong diggings soon became famous throughout Australia. The population greatly fluctuated, but at the census of 1871 it numbered 792, rising to 1,517 at the succeeding decennial census. The deposits were principally alluvial, constituting what was known as "a poor man's field," and they have from time to time attracted, and even now continue to attract, large numbers of miners. Gold does not, however, exhaust all the mineral resources of the district, but developmental work has yet to be carried out. The production of the county of which Young is the centre consists of wheat, maize, barley, oats, potatoes, wine, rye, green-crops, and fruit. It is also a stock-rearing district, favoured by horse and cattle breeders and by sheep-farmers. Butter and cheese-making, and the curing of bacon and hams are among its secondary industries; and the town possesses well-equipped freezing works for the treatment of rabbits for market, besides several flour-mills and all the various services and social conveniences of a modern provincial centre.

Before it was named Young, after the Governor of the era, the gold-field of Burrangong was known as Lambing Flat, and was made politically prominent by the riots of the white diggers who endeavoured to eject the Chinese from the field. Order was restored by the personal visit of the Premier, Sir Charles Cowper, who was desirous of attaining an amicable settlement without resorting to military force—a mission undertaken to avert bloodshed, which proved no less successful than it was unconventional.

Primarily a goldfield situated on both sides of the Emu Creek, Grenfell comprises a municipal district and an unincorporated township. The district contains many quartz-reefs encased within granite walls, and deep alluvial leads also abound. In addition to its gold yield, the country produces wheat, maize, oats, potatoes, wine, butter, cheese, bacon and hams, and depastures herds of cattle and horses, and flocks of sheep, while numerous pigs are bred for market. Murringo (corrupted by false analogy into Marengo) is situated on the right bank of the Murringo Creek, in the midst of a prosperous pastoral and agricultural district, the chief industry of which is sheep-farming.

The urban element in the county of Goulburn was represented by the borough of Albury, and by the unincorporated townships of Holbrook (late Germanton) and Lavington. Albury, formerly known as the "Federal City," stands on the right bank of the Murray River, which is here crossed by the road and railway bridges connecting the Victorian township of Wodonga with the New South Wales territory.

The beginnings of Albury date from the 17th November, 1824, when the river was crossed by Hamilton Hume on his overland expedition to Port Phillip, and named by him, in honor of his father, the Hume. The marked tree, commemorating the event, is still standing, and has been enclosed to ensure preservation. Albury is the centre of a fine agricultural district, which produces wine and wheat in abundance. But quartz-mining, sheep-breeding, and tobacco-growing are also important industries. Among the productions of the district are barley, oats, and brandy, the stock depastured include cattle, sheep and horses, and the dairy output in butter, cheese, bacon and hams constitutes valuable market commodities. During the season the river Hume, or Murray, is navigable to steamers as far as Albury, the town being 200 miles from its source, and about 1,800 miles from its debouchure into Lake Alexandrina. The first steamer to navigate the river to this point was the "Albury," under Captain George Johnston, in the year 1855.

Holbrook (late Germanton) is the centre of a district of farms, sheep stations, and vineyards, and Lavington, which is in the immediate vicinity of Albury, is a similar centre, on a smaller scale, of a similar region.

The urban element in the county of Bland was represented by the borough of Temora, the municipal district of Wyalong, and the unincorporated townships of Barmedman and Stockinbingal. Temora, situated 20 miles distant from the nearest permanent water of the Yeo Yeo Creek, is one of the oldest goldfields of the West, but the alluvial deposits are diminishing in their yearly returns, and settlement is largely superseding mining. Agriculture is making rapid strides under the direction of free selectors, and large crops of wheat are raised. The township is rapidly progressing, and besides the usual stores, hotels, civic offices, and other substantial services of a provincial town, it has a flour-mill. Tin has been found in the district; and besides ordinary agriculture, a considerable area has been put under vines.

Wyalong, the municipal district, is gradually declining as a goldfield, and its population of miners is falling off, and being succeeded by a much smaller but more persistent population of agricultural producers. West Wyalong, an unincorporated extension of the original field into the county of Gipps and the Division of the Central Plain, is on the contrary on the crest of a wave of mining prosperity. Barmedman may be classed as a township devoted almost exclusively to gold-seeking and quartz-reefing, and Stockinbingal is practically a railway wheat depôt for an extent of agricultural country which is also largely utilised for the breeding of cattle. For the year 1891 the urban element was exclusively municipal in the county of Bland, and was represented by the population of Temora, which then had 915 inhabitants.

The urban element in the county of Clarendon was represented by the borough of Junee and the municipal district of Gundagai, and was exclusively municipal at each census period under consideration. Junee is the centre of a pastoral district in which agriculture is gradually gaining a place. The town itself, which is steadily progressive, is a railway locomotive depôt, with a range of large sheds and workshops.

Gundagai is situated on the banks of the river Murrumbidgee, and is periodically subject to floods, the original settlement having been utterly destroyed in the middle of the year 1852. The district of which Gundagai is the railway and market depôt has been settled principally by sheep-breeders and by small-farming agriculturists, the land adjacent to the river being highly fertile. The principal crops are wheat, maize, barley, oats, potatoes, tobacco, and wine-making grapes. The stock returns include herds of cattle, horses and pigs and flocks of sheep, and the dairy produce of the district comprises butter, cheese, bacon and hams. But the region around Gundagai is by no means exclusively agricultural and pastoral, for its mineral resources are, relatively speaking, illimitable. Besides a number of productive goldfields, both in alluvial deposits and quartz-reef matrices, asbestos, white marble, and slate provide material for highly profitable exploitation. Mineral deposits of varied kinds have been discovered, surveyed and reported upon, but further enterprise in this direction awaits developmental work.

The population of the county of Buccleuch was, for the whole twenty-years' period, entirely rural, no unincorporated village reaching the urban standard, and no boroughs or municipal districts having been proclaimed therein. The urban element in the county of Selwyn was represented by the unincorporated township of Tumbaramba, which became qualified for classification as an urban centre in 1901, with a population of 860 inhabitants, and during the succeeding decade the population was increased by 79 persons.

The rural population of the Division, on the basis of the preceding table, gained 2,426 persons during the twenty years under review, showing an increase of 3,017 in 1901 upon the figures for 1891, but a decrease of 591 in 1911 upon the figures for 1901, whereas the municipal and non-municipal urban population gained 19,068 for the twenty-years' period, or an increase of 7,635 for the first and of 11,433 for the second decade—a result which must be received with caution and criticism, and with a due consideration of the census value of "Localities" otherwise undefined.

In the case of the counties of Harden, Goulburn, and Selwyn, the decline has been continuous throughout the whole period under review. Wynyard and Montague advanced in populousness from 1891 to 1901, and then suffered a declension, though not to the level of the figures for 1891, and Bland, Clarendon and Buccleuch have progressed continuously from census to census.

The following statement shows the municipal and the non-municipal urban and the rural elements in the constitution of the population of the Division for the three census periods of 1891, 1901, and 1911:—

	1891.	1901.	1911.
Municipalities	20,691	27,349	32,189
Unincorporated Towns and Villages (1891 and 1901), and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	3,175	4,152	10,745
Total, Quasi-urban	23,866	31,501	42,934
Remainder of the Division (Rural)	31,780	34,797	34,206
Total, Division ...	55,646	66,298	77,140

The occupations of the people in the Division of the South-Western Slope were predominantly agricultural. Of the 33,037 breadwinners of both sexes, 14,921 were primary producers, a class which included 9,072 persons who followed agricultural industries, 4,086 were classed as pastoralists, 902 as persons engaged in mining and quarrying, and 861 as persons engaged in other callings of primary producers. The industrial class numbered 6,780 persons,

and exceeded the sub-order of pastoralists by 2,694. The commercial class numbered 3,591 persons, the domestic 3,329, the professional 2,044, and the class transport and communication 1,936.

"Other" primary producers, numbering 861 (all males), included 353 hunters and trappers, 316 engaged in the conservation and supply of water, 183 in the work of forestry, and 9 fishermen. In the class transport and communication were enumerated 1,154 persons engaged on railways, 415 in traffic on roads, and 14 in traffic on waterways. The industrial class included 597 workers in foods, etc., and 1,662 engaged in construction and building, including the construction of railroads.

The following table shows the constitution of the population of the Division, arranged according to the occupations of the people, for the census of 1911:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	28,054	8,909	3,992	902	861	14,664	6,023	3,100	1,847	1,272	805	343	13,390
Females..	4,983	163	94	..	..	257	757	491	89	772	2,524	93	4,726
Total ..	33,037	9,072	4,086	902	861	14,921	6,780	3,591	1,936	2,044	3,329	436	18,116

The total population of the territory comprised in the eight counties which constitute the Division of the South-Western Declivity was, at the time of the last census, 77,140, to which total the breadwinning classes contributed 33,037, or 28,054 males and 4,933 females, and the class of dependents on natural guardians numbered 43,390, or as 1·313 to 1 of bread-winners of both sexes. The total number of persons classed as primary producers was 14,921, inclusive of 257 females. Throughout the Division there were 2,524 females engaged in domestic service and attendance, or a proportion of 7·64 per cent. of the total number of breadwinners of both sexes. On the basis of distribution previously explained, the number of dependents domiciled with the 14,921 primary producers of the Division was 19,591, and of domestics engaged in service and attendance, 1,140, making together a total of 35,652 persons.

In connection with the dependents on natural guardians, it is to be noted that the census enumeration showed 163 females as engaged in agriculture, and 94 in pastoral pursuits, or a total of 257 females engaged in these two branches of primary production; and the police returns, dated the 31st March, 1911, recorded respectively 873 females as engaged in agriculture, and 515 in dairying, or a total of 1,388 engaged in these two branches of primary production, therefore 710 females partially engaged in agriculture, and 421 partially engaged in pastoral pursuits, or a total of 1,131 females partially engaged in primary production, and partially engaged in the discharge of domestic duties, were included in the class dependents on natural guardians in the census classification of 1911. In this, as in the case of other Divisions of the territory, the police returns cannot be gainsaid in their evidence as to the rural population.

The rural population of the Division, as shown in the table of municipal and non-municipal urban and rural elements, amounted to 34,206 persons, but the rural population, as based on the census enumeration of primary producers, with proportional dependents and domestics, amounted to 35,652, or a difference of 1,446 persons, and the calculation of population on the basis

of the number of persons returned as primary producers makes no allowance whatsoever for travellers, persons engaged in transport and communication, clergymen and school teachers in country appointments, builders and mechanics whose work was to a great extent secondary to, and contingent upon, primary production, and a number of others ministering to wayside attendance, all of which allowances would still further increase the rural population, and materially discount the urban significance claimed by a designation so vaguely definitive as "Localities."

The primary producers as related to the other classes of breadwinners in the Division of the South-Western Declivity are shown in the following statement as at the census enumeration of 1911 :—

Class—Primary Producers	...	...	...	...	...	14,921
„ Industrial	...	...	...	...	...	6,780
„ Commercial	...	...	...	...	...	3,591
„ Domestic	...	...	...	...	...	3,329
„ Professional	...	...	...	...	...	2,044
„ Transport and Communication	...	...	...	...	...	1,936
„ Independents	...	...	...	...	...	436
Total	...	...	...	...	...	34,037

For the purposes of the administration of the Local Government Acts, the Division of the South-Western Declivity has been divided into the following nineteen shires, or portions of shires, which, with their headquarters, are as follow :—

Shire.	Headquarters.	Shire.	Headquarters.
Bland ..	Wyalong.	Mitchell ...	Wagga Wagga.
Weddin ...	Grenfell.	Kyeamba ...	„ „
Murrungul ...	Burrowa.	Gadara ...	Tumut.
Narraburra ...	Temora.	Yarrowlumla ...	Queanbeyan.
Burrangong ...	Young.	Lockhart ...	Lockhart.
Illabo ...	Munee.	Culcairn ...	Culcairn.
Jindalee ...	Cootamundra.	Hume ...	Jindera.
Demondrille ...	Murrumburrah.	Holbrook ...	Holbrook (late Germanton).
Adjungbilly ...	Gundagai.	Tumbarumba ...	Tumbarumba.
Goodradigbee ...	Yass.		

On the north the boundaries of the Division pass through the north-east portion of the shire of Bland and the northern section of the shire of Weddin ; on the east they follow the Burrowa River southward through the shire of Murrungul (in the Division of the Southern Tableland), enclosing the shires of Burrangong and Demondrille, cut off the western portions of the shires of Goodradigbee and Yarrowlumla, and follow the shire boundaries of Gadara and Tumbarumba to Forest Hill, on the Victorian border ; on the south they follow the shire boundaries westward of Tumbarumba, Holbrook and Hume, along the course of the river Murray, to a point a little westward of Albury ; and on the west they pass northward from the river Murray through the eastern fringes of the shires of Hume, Culcairn, Lockhart and Mitchell, along the western boundary of the shire of Illabo, through the western portion of the shire of Narraburra and the eastern portion of the shire of Bland, to the point of departure southward of Lake Cowal. The enclosed shires are Jindalee, Adjungbilly, and Kyeamba.

The unincorporated township of West Wyalong, the headquarters of the shire of Bland, is partly in the county of Gipps and in the Division of the Central Plain ; the unincorporated townships of Lockhart and Culcairn, headquarters respectively of shires of similar designation, are in the counties of Urana and Hume, and in the Division of the Riverina ; Burrowa, Yass and

Queanbeyan (the first and second municipal districts, and the third a proclaimed borough), headquarters respectively of the shires of Murrungul, Goodradigbee and Yarrawlumla, are the first two in the county of King and the last in the county of Murray, and are all included in the Division of the Southern Tableland. Grenfell, Young, Temora, Junee, Cootamundra, Murrumburrah, Gundagai, Wagga Wagga, and Tumut, the headquarters, in the order given, of the shires of Weddin, Burrangong, Narraburra, Illabo, Jindalee, Demondrille, Adjungbilly, Mitchell, Kyeamba, and Gadara, are all municipalities—that is, proclaimed boroughs or municipal districts. Wagga Wagga, a proclaimed borough, dating from the year 1870, is not only a municipal centre by virtue of its own incorporation, but it sub-serves the purposes of a headquarters for the two shires of Mitchell and Kyeamba. The unincorporated towns of Culcairn, Lockhart, Holbrook (late Germananton), and Tumbumba follow the vicious custom of duplicating names in townships and shires, and Bland, Mitchell, and Hume duplicate county names as shire names, partly covering identical territory.

THE DIVISION OF THE NORTH-CENTRAL PLAIN.

The Division of the North-Central Plain covers an area of 15,674 square miles, and comprises the seven counties of Benarba, Stapylton, Courallie, Denham, Jamison, Baradine, and White.

It is bounded on the north by the Barwon and the Macintyre Rivers, by the Barwon from a point westward of Walgett to the northern end of the billabong stream known as the Boomi River, thence by the Macintyre from its junction with the Barwon to its junction with Otley's Creek, midway between the townships of Bogabilla and Yetman.

It is bounded on the south by the Warrumbungle Range, and its eastern and western spurs.

It is bounded on the east by the head waters of the Macintyre River and its affluents, by an irregular surveyed line from Otley's Creek to Blue Nobby Peak, thence westward to Mount Mitchell, thence westward partly along the course of the Tackinbri Creek to the junction of the Yallaro and Croppa Creeks, thence south-south-west by a surveyed straight line to the village of Pallamallawa on the Mehi River, an affluent of the Gwydir, thence by an irregular surveyed line to the northernmost point of a low range of hills running roughly south and south-west from Sugarloaf Hill and culminating in Mount Linday, thence by a westerly spur to the headwaters of Spring Creek and along its course, thence by a section of the Namoi River to the village of Turrawan, and thence by an irregular surveyed line running south-west to the Warrumbungle Range near Apple Tree Mountain.

It is bounded on the west by an irregular surveyed line from the river Barwon, and a little to the west of the township of Walgett, running south-east between the watercourses of the Namoi and the Castlereagh Rivers and their affluents, to a peak named Square Top Mountain, the terminal elevation of a north-western spur of the Warrumbungle Range.

This Division is well watered and very fertile, save in exceptionally dry seasons, and though denominated the North-Central Plain, it has very little similarity to the great plains of the Western Division, which spread for vast distances east and west of the Darling River. Its surface is reticulated by numerous rivers, creeks, and ana-branches, and it provides a large area of the watersheds of the Dumaresq, the Macintyre, the Barwon, the Gwydir, the Namoi, the Castlereagh, and their numerous affluents and feeders.

The following table shows the constitution of the population in the seven counties of the Division of the North-Central Plain, at the three census periods under review, together with the density of population per square mile :—

County.	Area in square miles.	Population.			Density of Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Courallie	1,964	2,503	3,870	4,925	1·27	1·97	2·51
White	1,869	1,105	2,032	2,845	0·59	1·09	1·52
Baradine	2,513	1,601	1,963	2,429	0·64	0·78	0·97
Jamison	2,185	1,305	1,247	2,334	0·59	0·57	1·07
Benarba	3,260	928	1,714	2,317	0·29	0·53	0·71
Stapylton	2,401	1,021	1,156	1,599	0·44	0·48	0·67
Denham	1,482	274	477	726	0·19	0·32	0·49
Total	15,674	8,737	12,459	17,175	0·56	0·79	1·10

The Division of the North-Central Plain shows a satisfactory advance in settlement throughout the twenty years, 1891–1911. The total gain in population for the period was 8,438 persons, or an increase of 3,722 for the first and of 4,716 for the second decade. Every county has advanced from census to census, with the exception of the county of Jamison, which lost 58 persons during the period 1891–1901—a loss amply retrieved during the succeeding ten years.

The Division is emphatically pastoral in the constitution of its population, out of 4,478 primary producers 3,623 being returned as persons following pastoral pursuits, and 542 as agriculturists. The county of White, however, returned 201 agriculturists as against 210 pastoralists, and the county of Baradine 117 agriculturists as against 353 pastoralists.

The density of population for the whole Division rose from 0·56 persons per square mile in 1891 to 0·79 in 1901, and to 1·10 in 1911, practically doubling within the twenty-years' period. Courallie was the most densely-peopled county at the last census, the population in 1891 being returned as 2,503 persons or 1·27 per square mile, in 1901 as 3,870 or 1·97 per square mile, and in 1911 as 4,925 or 2·51 per square mile, the numerical increase in the period under review being 2,422, or 1,367 for the first and 1,055 for the second decade.

The county of White came second both in population and in density, the increase on the population in 1891, which was 1,105 persons, being 1,740 for the twenty years under review, or 927 for the first and 813 for the second decade, and the density per square mile ranging from 0·59 in 1891 to 1·09 in 1901, and to 1·52 in 1911.

The county of Baradine, third in population but fourth in density, returned 1,601 inhabitants in 1891, and gained 828 during the period 1891–1911, or 362 for the first and 466 for the second decade, the density ranging from 0·64 persons per square mile in 1891 to 0·78 in 1901 and to 0·97 in 1911.

The county of Jamison, fourth in population but third in density, returned 1,305 inhabitants in 1891, and after losing 58 persons during the first decade, gained 1,087 in the second, the total increase for the period being 1,029, and the density of persons per square mile ranging from 0·59 in 1891 to 0·57 in 1901, and to 1·07 in 1911. The county of Benarba, fifth in population and in density, and, moreover, comprising the greatest area of any county in the Division, namely 3,260 square miles, returned at the census of 1891

only 928 inhabitants, but gained 1,389 during the period 1891–1911, the increase being 786 for the first and 603 for the second decade, and the density of persons per square mile ranging from 0·29 in 1891 to 0·53 in 1901, and to 0·71 in 1911.

The county of Stapyhton, sixth in population and in density, returned 1,021 inhabitants in 1891, and gained 578 during the twenty years under review, or 135 for the first and 443 for the second decade, the density ranging from 0·44 persons per square mile in 1891 to 0·48 in 1901, and to 0·67 in 1911. The county of Denham, seventh in order both as regards population and density, returned only 274 inhabitants in 1891, and gained 452 for the twenty-years' period under review, or 203 for the first and 249 for the second decade, the density ranging from 0·19 persons per square mile in 1891 to 0·32 in 1901, and to 0·49 in 1911.

The county of Courallie contains the municipality of Moree, and the county of White that of Narrabri West, besides the unincorporated township of Wee Waa. The county of Baradine contains the unincorporated township of Walgett, and the county of Benarba the unincorporated townships of Mungindi and Boomi.

The population of the two municipalities of the Division at each of the census enumerations of 1891, 1901, and 1911 was as under:—

Municipality.				County.	1891.	1901.	1911.
Moree	...	...	...	Courallie	1,143	2,298	2,931
*West Narrabri	...	...	...	White	...	677	806
Total, Municipalities				...	1,143	2,975	3,737

* West Narrabri was incorporated as a municipal district on the 26th September, 1895.

The municipal population of the Division had increased during the twenty years under review by 2,594, or by 1,832 for the first and by 762 for the second decade. The population of the municipal district of Moree, proclaimed on the 3rd December, 1890, was in 1891 only 1,143, but by 1901 it had more than doubled, gaining during the ten years 1,155 inhabitants, and during the second decade 633, or 1,788 for the period of the twenty years under review. Moree, as a small township, first appeared in a census enumeration in 1871 with 90 inhabitants, a number which grew to 295 at the census of 1881.

West Narrabri, proclaimed a municipal district on the 26th September, 1895, is an extension, on the west bank of the river Namoi, of the proclaimed borough of Narrabri (incorporated on the 5th September, 1883) which stands on the east bank, in the adjoining county of Nandewar, and in the Division of the North-Western Slope. West Narrabri first appeared in a census enumeration in 1891 with a population of 384, in 1901 (then a municipal district) it had increased to 677, showing a gain of 293 persons, and in 1911 to 806, showing an additional gain of 129 persons, or a total increase for the twenty-years' period under review of 422, or more than double its population in 1891.

The municipal area of Moree is 8,000 acres, or $12\frac{1}{2}$ square miles, and the density ranged from 0·14 persons per acre in 1891 to 0·29 in 1901, and to 0·37 in 1911. West Narrabri has a municipal area of 1,459 acres, or somewhat over $2\frac{1}{4}$ square miles, and the density of population ranged from 0·26 in 1891 to 0·46 in 1901, and to 0·55 in 1911.

The population of the unincorporated villages and townships in 1891 and 1901, and of "Localities" not otherwise defined, in 1911, at the census enumerations of 1891, 1901, and 1911, is shown in the following table:—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Wee Waa	White... ..	262	...	...	775	1,512
Walgett	Baradine ... ..	...	...	742	1,075	1,177
Mungindi	Benarba	61	330	...	...	601
Boomi	"	—	—	—	—	562
*West Narrabri	White... ..	384	...	...	...	...
Total, over 500 Inhabitants		...	...	742	1,850	3,852

* Proclaimed a municipal district, 26th September, 1895.

The unincorporated townships of the Division of the North-Central Plain have gained in population during the twenty years under review by 3,110 persons, which is higher than the increase of the incorporated areas by 516. Wee Waa, in the county of White, first appeared in a census enumeration in 1871 with 94 inhabitants, but it made no appearance in 1881. In 1891, Wee Waa reappeared with 262 inhabitants, and for the twenty-years' period under review showed an increase of 1,250 persons to its population, or 513 for the first and 737 for the second decade.

Walgett, in the county of Baradine, appeared for the first time in a census enumeration in 1871 with 81 inhabitants, in 1881 it had 375, and 742 in 1891. Walgett gained 435 persons to its population during the twenty years under review, or 333 for the first and 102 for the second decade. Mungindi came into a census enumeration in 1891 with a population of only 61, by 1901 its inhabitants had increased to 330, and in 1911 to 601, or a total addition to its population during the twenty years under review of 540 persons. Boomi made no appearance in any census record until the year 1911, when it was recorded as a "Locality," with a population of 562. West Narrabri has been noted already in treating of municipalities.

The following table shows the municipal and non-municipal urban, and the rural elements of the Division of the North-Central Plain for the three census periods of 1891, 1901, and 1911:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Courallie	Municipal	1,143	1,360	2,298	1,572	2,931	1,994
White	"	—	...	677	...	806	...
	Non-municipal	—	...	775	...	1,512	...
	Total	—	1,105	1,452	580	2,318	527
Baradine	Non-municipal	742	859	1,075	888	1,177	1,252
Jamison	"	—	1,305	—	1,247	—	2,334
Benarba	Non-municipal	—	928	—	1,714	1,163	1,154
Stapylton	"	—	1,021	—	1,156	—	1,599
Denham	"	—	274	—	477	—	726
Grand Total		1,885	6,852	4,825	7,634	7,589	9,586

In the foregoing table the county of Courallie is shown as having the largest urban population of any county in the Division, a distinction due entirely to the growth of the municipal town and district of Moree, situated on the Mehi River, which in a wet season is a somewhat important affluent of the Gwydir. Moree is a pleasant and admirably laid-out township with all the necessary civic services and social conveniences of hotels, stores, market-yards, and administrative headquarters, in which capacity it serves also the requirements of the adjacent shires of Boomi and Boolooroo. The surrounding district depastures considerable flocks of sheep and cattle, and the dairy production of butter and cheese is considerable. The district is noted also for the calibre of its horse-breeding, and for the raising of pigs and the curing of hams and bacon. Wheat, maize and potatoes are grown in the neighbourhood, but pastoral pursuits have hitherto taken precedence of agriculture, which has been only recently growing into prominence.

The urban element in the county of White was first exhibited in 1901 by the municipal district of West Narrabri with 677 inhabitants, and Wee Waa with 775, making together a total of 1,452, which increased (represented by the same urban centres) by 866 during the succeeding decade. West Narrabri is the centre of a district representative of nearly every form of settlement. It has flour and saw mills, stores and hotels, and it produces wheat, maize, potatoes, butter, cheese, bacon, hams and minerals. It is carboniferous in character, but hitherto no developmental work has been undertaken. Its natural reticulation by creeks and small water-courses makes it an ideal country for stock-raising, and besides considerable horse and cattle breeding, a number of sheep are fed from its pastures, but the district is becoming increasingly agricultural, and settlement is being largely carried out by the free-selectors, who are replacing with farms the great squattages of a former period. The unincorporated township of Wee Waa, on a lagoon of the same name near the river Namoi, is the centre of an essentially pastoral country, and pre-ents no specially distinctive features.

The urban element in the county of Baradine is represented by the unincorporated township of Walgett, which stands at the junction of the Barwon and the Namoi Rivers, and constitutes the business depôt of all the outlying districts to the north and the west, to the Queensland border in one direction, and as far as the Paroo in the other. It is, moreover, situated at the delimitation of the Central and Western Pastoral Divisions, the meeting-place of homestead occupation and conditional purchase. The surrounding country is almost entirely occupied by sheep and cattle stations, and the township itself is a drafting depôt for travelling stock *en route* for different and widely separated markets. Walgett is subject to inundation in the wet season, and the township was partially destroyed by flood as recently as 1915.

The urban element in the county of Benarba is represented by the two unincorporated townships of Mungindi and Boomi. The former is centrally situated on the borders of New South Wales and Queensland, and stands on the south-eastern bank of the Barwon River. It is one of the most important crossing-places for travelling stock on the frontier, being on the main roads from Sydney and Maitland to the Moonie, Balonne and Narran Rivers. Boomi is a small township, situated a little to the south of the Queensland border, on a stream of the same name, which is one of the affluents of the river Barwon. In 1891 and 1901 the county of Benarba had no urban representation, Mungindi not having reached the standard, and Boomi having made no appearance in previous census records.

During the twenty years under review the rural population of the Division, which, according to the preceding table, stood at 6,852 in 1891, increased by 2,734 persons, or by 782 for the first, and by 1,952 for the second decade.

The following statement shows the municipal and the non-municipal urban and the rural elements in the constitution of the population for the three census periods of 1891, 1901, and 1911:—

Municipalities	...	...	...	...	...	1891. 1,143	1901. 2,975	1911. 3,737
Unincorporated Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	...	...	...	...	...	742	1,850	3,852
Total, Quasi-urban						1,885	4,825	7,589
Remainder of the Division (Rural)						6,852	7,634	9,586
Total, Division						8,737	12,459	17,175

The occupations of the people in the Division of the North-Central Plain were predominately pastoral when the last census was taken, though agricultural settlement had made a beginning, in the counties of White and Baradine particularly, and in the immediate neighbourhood of the municipal district of Moree in the county of Courallie. But of the 8,486 breadwinners of both sexes in the Division, 3,623 followed pastoral pursuits, the sub-order "Agricultural" numbering only 542. The total number of primary producers was 4,478, the Class "Industrial" came next with 1,434 persons, then came in the order given the Classes "Domestic" (925), "Commercial" (630), "Transport and Communication" (581), and "Professional" (371). With the exception of the Professional, every Class of the breadwinners here enumerated exceeded in number the sub-order "Agricultural."

Although mining has been intermittently pursued in the Division, especially near its eastern boundary, 9 miners only were enumerated at the census of 1911. "Other" primary producers, numbering 304, included 214 males engaged in forestry, 63 males engaged in the conservation and supply of water, 23 males and one female engaged in hunting and trapping, and 3 fishermen. In the Class "Transportation and Communication" were enumerated 250 persons engaged on railways, 229 in traffic on roads, and one only in traffic on waterways. The "Industrial" Class included 86 workers in foods, etc., and 358 engaged in construction and building, including the construction of railways. The following table shows the constitution of the population of the Division, arranged according to the occupations of the people, for the census of 1911:—

Sex.	Breadwinners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	7,473	534	3,571	9	303	4,417	1,374	569	572	235	248	58	3,056
Females ..	1,013	8	52	..	1	61	60	61	9	136	677	9	952
Total ..	8,486	542	3,623	9	304	4,478	1,434	630	581	371	925	67	4,008

The total population of the Division comprised in the seven counties of the North-Central Plain was, at the time of the last census, 17,175, to which total the breadwinning classes contributed 8,486, or 7,473 males and 1,013 females, and the dependents on natural guardians numbered 8,522, or

as one to one of breadwinners of both sexes. The total number of persons classed as primary producers was 4,478, inclusive of 61 females. Throughout the Division there were 677 females engaged in domestic service and attendance, or a proportion of 8 per cent. of the total number of breadwinners of both sexes. On the basis of distribution previously explained, the number of dependents domiciled with the 4,478 primary producers of the Division was 4,478, and of domestics engaged in service and attendance 358, making together a total of 9,314—a number which is exclusive of all persons belonging to subsidiary and ministering occupations resident in the rural parts of the Division, and comprising artizans, handicraftsmen, carriers, hawkers, school-teachers, clergymen, innkeepers, and others dealing in food and drink. Even the table showing the municipal and non-municipal urban and the rural elements of the population of the Division, which represents the latter as numbering 9,586, probably gives a total rural population lower than it actually was, for although the proportion between the urban and rural elements is in this Division more consonant with the facts of settlement than in some other territorial districts, the over-statement of population in the "Localities" census of 1911 of municipalities of determined areas and recorded inhabitants amounted to over 20 per cent.

In connection with the dependents on natural guardians, it is necessary to note that the census enumeration showed 8 females as engaged in agriculture and 52 in pastoral pursuits, or a total of 60 females engaged in these two branches of primary production, and the police returns dated the 31st March, 1911, recorded respectively 7 females as engaged in agriculture and 17 in dairying, or a total of 24 engaged in these two branches of primary production. This is the first instance in which the police returns have submitted a lower number of females as independent primary producers than the total presented by the census—a difference which illustrates the incertitude regarding accuracy of statement in respect to occupation.

This Division illustrates also the increasing accuracy of statement regarding township settlement in relation to increasing distance from the metropolis. The farther from the coast a township settlement is situated, the clearer is its status with reference to the surrounding district. In the West a centre of small populousness assumes an importance and a significance not attached to centres of similar size and number of inhabitants in the more closely inhabited Divisions of the State.

The Division of the North-Central Plain, though later settled than the Riverina, is in many characteristics very similar; indeed, geographically it might well be termed the "Riverina of the North."

The primary producers, as related to the other classes of breadwinners therein, are shown in the following statement, as at the census enumeration of 1911 :—

Class—Primary Producers	...	...	...	...	...	4,478
„ Industrial	...	...	...	...	...	1,434
„ Domestic	...	...	...	...	...	925
„ Commercial	...	...	...	...	...	630
„ Transport and Communication	...	...	...	...	...	581
„ Professional	...	...	...	...	...	371
„ Independents	...	...	...	...	...	67
Total						8,486

For the purposes of the administration of the Local Government Acts, the Division of the North-Central Plain has been divided into six shires, or portions of shires, which, with their headquarters, are as follow :—

Shire.		Headquarters	Shire.	Headquarters.
Boomi ... ..	...	Moree.	Namoi	Wee Waa.
Boolooroo ... ..	...	Moree.	Wingadee	Coonamble.
Walgett ... ..	...	Walgett.	Coonabarrabran ..	Coonabarrabran.

The Division includes the shires of Boomi and Boolooroo, roughly following the county boundaries of Benarba, Stapylton, and Couralie, portions of the shires of Walgett and Wingadee, to the surveyed irregular boundary of the county of Baradine between the Namoi and Castlereagh Rivers, the portion of the shire of Coonabarrabran lying to the northward of the Warrumbunge Range, and the shire of Namoi, with the exception of the eastern part extending into the Division of the North-Western Slope.

Moree, itself a municipal district centre, is the headquarters of the shires of Boomi and Boolooroo, and Coonamble, another municipality, but situated in the Central Plain, is the headquarters of the shire of Wingadee. Coonabarrabran, an unincorporated township in the county of Gowen and in the Division of the Central Western Slope, is the headquarters of the shire of the same name. The shire-centre of Namoi is Wee Waa, an unincorporated township, and of Walgett, the unincorporated township of the same name.

THE DIVISION OF THE CENTRAL PLAIN.

The Division of the Central Plain comprises the eleven counties of Clyde, Leichhardt, Canbelego, Gregory, Flinders, Oxley, Ewenmar, Narromine, Kennedy, Cunningham, and Gipps, in their geographical order, reading from west to east, and from north to south. The Division covers an area of 27,478 square miles, and is bounded on the north by the river Barwon, eastward from its junction with the Bogan to a point a little to the west of the township of Walgett. It is bounded on the south by a mountain spur curving approximately eastward from Yalgogrin to Upper Wyalong, thence by a surveyed series of straight lines running east, north, and north-east to the Caragabal Creek, following the creek's course in an easterly direction, and terminating a little southward of the Wheogo Range.

It is bounded on the east by the irregular surveyed line between the water-courses of the Namoi and Castlereagh Rivers from a point west of Walgett on the river Barwon running south-east to the range terminating in Square Top Mountain, southward by the range to the head-waters of the Wambelong Creek, thence westward from Junction Mountain by Wambelong and Baronne Creeks to the river Castlereagh, up the latter to the township of Breelong, thence by an irregular line to the source of the Coolbaggie Creek, along the latter to its junction with the Macquarie River, eastward by the Macquarie to the village of Terramungamine, thence by a surveyed line to the Bugle Cuble Creek, thence southward by the Sappa Bulga and Hervey's Ranges to Tuckelbri Peak, thence westward by a spur to Blow Clear Hill, thence southward by the Gunning, Corradgery, and Jemalong Ranges, and the Currowong Hills, to the Wheogo Range and the termination of the southern boundary at Caragabal Creek.

It is bounded on the west by the Bogan River from its junction with the river Barwon to the hamlet of Willeroon, thence by a surveyed line running south-west and terminating at a point east of the 146th meridian of east longitude thence by a surveyed straight line running south-east and terminating to the eastward of Mount Boppy, thence by a surveyed straight line running south-

south-east to the Lachlan River, from Coobothery on the Lachlan southward *via* the Coobothery Range to its termination, and southward to the southern boundary by low-lying courses of hills, terminating in the latitude of Yalgogrin.

According to the delimitation of the Division for agricultural and stock statistics, collected by the police in patrol districts, only sections of the counties of Clyde, Canbelego, and Gregory are included, but this course is impossible of adoption in the present inquiry, as the census of 1911 made the county the territorial unit of enumeration. Moreover, a comparison of population statistics for the three census periods under review can be made only on a county basis. The Central Plain, more than any territorial Division of the State hitherto examined, shows in the constitution of its inhabitants the encroachment of agricultural settlement over pastoral areas.

From the following statement, presented in a tabulated form, it will be seen that, generally speaking, the counties to the east of the Division, that is, bordering on the western confines of the Central-Western Declivity, are more agricultural than pastoral in the pursuits of their inhabitants, and that those to the west, that is, bordering on the great plains of the Western Division, are more pastoral than agricultural, while counties which occupy a central position in the Division, or which touch both the Central-Western Declivity and the great plains of the hinterland, are evenly divided between these two leading branches of primary production:—

County.		No. engaged in Agriculture.	No. engaged in Pastoral Pursuits.
Narromine	(East-central)	971	368
Cunningham	(South-east and South-west) ...	600	311
Gipps	(South-east and South-west) ...	495	589
Ewenmar	(East)	446	570
Kennedy	(East-central)	436	334
Oxley	(Central)	108	398
Leichhardt	(North-east)	106	990
Canbelego	(North-west)	39	158
Clyde	(North-west)	31	302
Flinders	(West-central)	21	236
Gregory	(North-west)	12	603
Total		3,265	4,859

Leichhardt, a north and north-eastern county of the Division, had the greater portion of its population engaged in the pursuits of the pastoralist, while Narromine, a south-eastern county, was predominantly agricultural. The pastoralists in Leichhardt numbered 990, and the agriculturists 106, but while the pastoralists in the county of Narromine numbered 368, the agriculturists numbered 971. The county of Gregory, a region of the west, was accredited with 603 pastoralists and only 12 agriculturists, and Cunningham, a south-central county, stretching between both the eastern and western limits of the Division, against 600 agriculturists had only 311 pastoralists.

The county of Gipps touched Divisional boundaries on its eastern, western and southern limits, and against 589 pastoralists there were 495 agriculturists. Ewenmar, an eastern county of the Division, had 570 pastoralists and 446 agriculturists, and Kennedy, another eastern county, 334 pastoralists with 436 agriculturists. Oxley, a central county, west of the Macquarie River, had, on the contrary, 398 pastoralists and only 108 agriculturists.

Clyde, a county flanked by the rivers Barwon and Bogan, centrally watered by the Merri Merri, the Marthaguy, and the Marra Creeks, and lying on the north-western flank of the Division, listed 302 pastoralists against only 31 agriculturists. Flinders, a county in the central-west, fringing the

eastern Darling River Plains, had 236 pastoralists, and but 21 agriculturists, and the county of Canbelego, west of the river Bogan, with 158 pastoralists could enumerate as against them only 39 agriculturists.

The population of the eleven counties comprising the Division of the Central Plain, and the density of population of persons per square mile, at the three census enumerations of 1891, 1901, and 1911, are shown in the subjoined table :—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Narromine	1,880	3,834	6,567	6,599	2·04	3·49	3·51
Gipps	2,791	1,590	3,533	4,584	0·57	1·27	1·64
Leichhardt	3,661	2,822	3,482	4,543	0·77	0·95	1·24
Cunningham	2,594	2,264	3,439	4,326	0·87	1·33	1·67
Oxley	1,457	2,980	3,365	3,508	2·05	2·31	2·41
Ewenmar	2,070	1,997	3,559	2,931	0·97	1·72	1·42
Kennedy	2,338	1,843	1,766	2,367	0·79	0·76	1·01
Gregory	3,080	1,107	1,144	1,585	0·36	0·37	0·51
Clyde	2,777	1,274	1,445	1,582	0·46	0·52	0·57
Canbelego	2,109	1,013	884	800	0·48	0·42	0·38
Flinders	2,718	672	687	699	0·25	0·25	0·26
Total	27,478	21,396	29,871	33,524	0·78	1·08	1·22

The Division of the Central Plain has progressively increased from census to census. In 1891 the population stood at 21,396, and during the twenty years under review it increased by 12,128 inhabitants, or by 8,475 for the first and by 3,653 for the second decade, the density ranging from 0·78 persons per square mile in 1891 to 1·08 in 1901, and to 1·22 in 1911. With the exception of Ewenmar, Kennedy, and Canbelego, all the counties in the Division showed increases in the population at the successive censuses of 1891, 1901, and 1911.

Ewenmar, in 1891, had a population of 1,997, which showed during the next ten years an accretion of 1,562 inhabitants, and during the succeeding ten years a declension of 628, nevertheless, during the twenty years under review there was a total gain of 934. The county of Kennedy had, in 1891, a population of 1,843, which showed during the next decade a declension of 77 persons, and during the succeeding decade an accretion of 601, or a total gain during the twenty-years' period of 524. On the other hand, the county of Canbelego experienced a loss for the twenty-years' period of 213 inhabitants, or 129 for the first and 84 for the second decade. Canbelego, which constitutes a division of the Cobar Mining District, simply suffered from the fluctuating fortunes of all metalliferous regions; and the county of Ewenmar apparently retrieved its decline in population by the progress of the unincorporated town of Gilgandra.

The county of Narromine stands first, both in number and in density of population, among the counties of the Division of the Central Plain. It contains the municipal districts of Narromine and Peak Hill, the unincorporated township of Trangie, and the goldfield township of McPhail, which has declined greatly during the period 1891–1911. In 1891 the county of Narromine had a population of 3,834, which increased by 2,733 during the first and by only 32 persons during the second decade, or by 3,765 during the twenty years, and the density ranged from 2·04 persons per square mile in 1891 to 3·49 in 1901, and to 3·51 in 1911.

The county of Gipps, in which was situated the unincorporated goldfield of West Wyalong, was second in number and fourth in density among the counties of the Division. In 1891 it had a population of 1,590, which increased by 1,943 during the first and by 1,051 during the second decade, or by 2,994 during the twenty years, and the density ranged from 0·57 persons per square mile in 1891 to 1·27 in 1901, and to 1·64 in 1911.

The county of Leichhardt, which contains the municipal district of Coonamble, came third in population and sixth in density at the census of 1911. In 1891 it had 2,822 inhabitants, which increased in number by 660 during the first and by 1,061 during the second decade, or by 1,721 during the twenty years, and the density ranged from 0·77 persons per square mile in 1891 to 0·95 in 1901, and to 1·24 in 1911.

The county of Cunningham, in which were situated the municipal district of Condobolin and the unincorporated townships of Trundle and Bogan Gate, came fourth in population and third in density at the 1911 census. In 1891 it contained 2,264 inhabitants, which increased in number during the first decade by 1,175 and during the second by 887, or for the twenty years under review by 2,062, and the density ranged from 0·87 in 1891 to 1·33 in 1901, and to 1·67 in 1911.

At the last census Oxley, in which is situated the municipal districts of Nyngan and Warren (though the latter is also partly in the county of Ewenmar), came fifth in number but second in density of population. In 1901 the population numbered 2,980 persons, which increased by 385 during the first and by 143 during the second decade, or for the twenty-years' period by 528, and the density ranged from 2·05 in 1891 to 2·31 in 1901, and to 2·41 in 1911.

The county of Ewenmar came sixth in population and fifth in density at the last census, but its vicissitudes of population have already been noticed, as have those also of the county of Kennedy which stood seventh in both number and density of population at the last census. The county of Gregory, eighth in population and ninth in density in the year 1911, had in 1891 a population of 1,107, which increased by 37 persons during the first and by 441 during the second decade, or by 478 during the twenty-years' period, while the density ranged from 0·36 in 1891 to 0·37 in 1901, and to 0·51 in 1911.

The county of Clyde, which contained the municipal district of Brewarrina, came ninth in number and eighth in density of population at the last census, and in 1891 had a population of 1,274, which increased during the first decade by 171 persons, and by 137 during the second, or by 308 during the twenty years under review, while the density ranged from 0·46 in 1891 to 0·52 in 1901, and to 0·57 in 1911. The county of Canbelego, which at the census of 1911 stood tenth among the counties of the Division, both with respect to number and to density of population, has already been commented upon. The county of Flinders, eleventh and last, both in number and in density of population, had in 1891 a population of only 672 inhabitants; these increased in number during the first decade by 15, and during the second by 12, or by 27 during the twenty years under review, while the density ranged from 0·25 persons per square mile in 1891 and 1901 to 0·26 in 1911.

The Division of the Central Plain is well watered in normal seasons on the north and east, but few water-courses reticulate some of the southern and western counties. Parts of this great region are auriferous, cupriferous, and argentiferous, and sections of the Divisions are included in the three Mining Districts of Cobar, the Lachlan, and Mudgee, and their sub-districts

bear the well-known names of Canbelego, Aleetown, Condobolin, Fifield, Trundle, Wyalong West, Yalgogrin, and Peak Hill. The census of 1911 recorded 540 miners as operating in the Division of the Central Plain at the time of the enumeration.

The subjoined table shows the population of the municipalities in the counties comprising the Division at the successive census enumerations of 1891, 1901, and 1911.

Municipality.	County.	1891.	1901.	1911.
Coonamble	Leichhardt	1,141	1,680	2,262
*Peak Hill	Narromine ... ..	...	1,107	1,362
†Narromine ... ..	" ... ..	...	931	1,269
Condobolin	Cunningham	742	1,078	1,230
Nyngan	Oxley, Canbelego and Gregory	1,355	1,455	1,200
‡Warren	Oxley and Ewenmar ... ..	...	1,175	1,142
§Brewarrina	Clyde and Narran ... ..	...	683	798
• Total, Municipalities ...		3,238	8,109	9,263

* Peak Hill incorporated, 7th November, 1894.

† Narromine incorporated, 22nd April, 1898.

‡ Warren incorporated, 23rd April, 1895.

§ Brewarrina incorporated, 12th January, 1901.

During the twenty years under review the municipal population of the Division of the Central Plain increased by 6,025 persons, or by a habitancy of 4,871 for the first and of 1,154 for the second decade. Coonamble, which was incorporated as a municipal district on 3rd May, 1880, made its first appearance in a census enumeration as an unincorporated township in 1871 with a population of 209, in 1881 its habitancy had increased to 1,226, and in 1891 it had decreased slightly to 1,141 by the loss of 85 persons. During the twenty years under review, Coonamble gained 1,121 persons to its population, or 539 for the first and 582 for the second decade, while its density ranged from 0·08 persons per acre in 1891 to 0·11 in 1901, and to 0·15 in 1911, over a municipal area of 15,040 acres, or 26 square miles.

Peak Hill, incorporated as a municipal district on the 7th November, 1894, contains 18,560 acres, or an area of 29 square miles, and its density ranged from 0·08 persons per acre in 1891 to 0·06 in 1901, and to 0·07 in 1911, for Peak Hill, like many other goldfields, had fewer inhabitants in 1911 than it had in 1891. It made its first appearance in a census enumeration in the year last mentioned, with a habitancy of 1,557 persons, during the succeeding decade it lost 450 of its inhabitants, but during the second decade it retrieved its declining population by a gain of 255 persons, or for the twenty-years' period its total loss amounted to 195.

Narromine, proclaimed a municipal district on the 23rd April, 1898, first appeared in a census record in 1891 with a population of 236, increased during the first decade by 695, and during the second by 338, or by 1,033 during the twenty years under review, its density of population ranging from 0·31 in 1891 to 1·23 in 1901, and to 1·68 in 1911, over a municipal area of 755 acres, or less than 1½ square miles.

Condobolin, with an area of 29,888 acres, or nearly 47 square miles, ranged in density of population from 0·02 persons per acre in 1891, to 0·04 in 1901 and 1911. It was proclaimed a municipal district on the 20th May, 1890, and first appeared in 1861 with 71 inhabitants, in 1871 the population had grown to 95, and in 1881 to 467. Condobolin appeared in the census enumeration of 1891 as municipal district with a population of 742, which had increased by 336 in 1901 and by 152 in 1911, or by 488 during the twenty years under review.

Nyngan was proclaimed a municipal district on the 16th February, 1891, with an area of 2,970 acres, or nearly 5 square miles, and its density of population ranged from 0·46 in 1891 to 0·49 in 1901, and to 0·40 in 1911. Its creation was the outcome of railway extension into the West, and its first appearance in a census enumeration was made as a municipal district, with a population of 1,355 persons, its progress, however, has not been continuous, for though it gained 100 persons to its population during the ten years 1891-1901, it lost 255 in the succeeding decade, its total declension in population for the twenty years under review being 155. Nyngan's temporary and unique position of railway terminus and base construction-camp gave it advancement, which the railway extension north-west and westward counteracted.

Warren, with an area of 14,592 acres, or a little more than 22½ square miles, had a population density of 0·06 persons to the acre in 1891, and of 0·08 in 1901 and in 1911. It first appeared in a census enumeration in 1871, with a population of 159 inhabitants, which increased to 429 in 1881, and to 860 in 1891. Warren was proclaimed a municipal district on the 23rd April, 1895, and with a gain of 315 inhabitants showed a population of 1,175 in 1901, but a loss of 33 persons during the succeeding decade reduced the number to 1,142 in 1911.

Brewarrina, although in the county of Clyde, is actually in the Western Division (the sub-division of the Great Western Plains east of the Darling, and west of the delimitation of the territory into shires). Nevertheless, as Brewarrina is in a county, part of which falls in the Division of the Central Plain, it is convenient, for the purposes of comparison, to include it therein. Brewarrina, which was incorporated by proclamation as a municipal district on the 12th January, 1901, with an area of 16,000 acres, or 25 square miles, had a density of population ranging from 0·03 persons per acre in 1891 to 0·04 in 1901, and to 0·05 in 1911. Brewarrina first appeared in a census enumeration in 1871 with a population of 95 persons, which by the next decennial census had increased to 344, and in 1891 to 489. As a municipality it showed in the next census an increase of population of 194 persons, and for the succeeding decade an additional increase of 115, or for the twenty years under review a total gain of 309 persons.

The unincorporated townships of the Division show a much lower rate of progress than the municipal districts. This is due to two reasons, firstly, as soon as a district can support an urban centre of the smallest pretensions in this region of great distances, incorporation becomes an obvious measure of self-protection, and secondly, vast pastoral areas can support urban centres only as absolutely necessary pivots and depôts of exchange and business convenience.

In the year 1891 the census recorded as unincorporated townships: Narromine, with a population of 236, Peak Hill 1,557, Warren 860, and Brewarrina 489—four places which, when subsequently incorporated as municipal districts, seriously retarded the apparent progress of unincorporated townships in population.

In 1891 Narromine, Trangie, Trundle, Gilgandra, and Brewarrina had not yet reached the urban standard of 500 inhabitants. In 1901 Trundle was still disqualified, as also the hitherto unknown township of Bogan Gate, and the previously prosperous Aleetown had fallen below the urban standard. In 1911 McPhail fell below the urban standard, and the returns for the twenty-years' period show that unincorporated centres by no means flourish in the West, but when this dictum applies to mineral fields, it must be remembered that the application thereof is universal, and in no sense particular in the case of any given Division of the State.

The following table exhibits the population of the unincorporated villages and townships of this Division of the State for the census years of 1891 and 1901, also those "Localities" not otherwise defined for the census of 1911, and those centres which have declined or reached the urban standard during the period of twenty years under review :—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Gilgandra...	Ewenmar and Gowen ...	95	...	...	683	2,207
Trangie ...	Narromine ...	241	...	...	1,003	1,164
Trundle ...	Cunningham ...	98	78	...	...	693
Bogan Gate ...	" ...	—	256	—	...	668
						4,732
						Under 500.
*West Wyalong ...	Gipps ...	—	...	—	1,696	...
McPhail ...	Narromine ...	—	...	—	616	92
†Peak Hill ...	Narromine and Kennedy ...	...	...	1,557	...	...
‡Warren ...	Oxley and Ewenmar ...	...	...	860	...	...
§Alectown ...	Kennedy ...	...	264	633	...	317
§Brewarrina ...	Clyde and Narran ...	489	...	...	...	...
¶Narromine ...	Narromine ...	236	...	...	...	...
Total, over 500 Inhabitants		...	...	3,050	3,998	4,732

* Not included in the published results of the census of 1911.

† Peak Hill incorporated municipal district, 7th November, 1894.

‡ Warren incorporated municipal district, 23rd April, 1895.

§ Brewarrina incorporated municipal district, 12th January, 1901.

¶ Narromine incorporated municipal district, 22nd April, 1898.

Gilgandra, an unincorporated village in the county of Ewenmar, first appeared in the census enumeration of 1891 with a population of 95 persons, which during the succeeding ten years increased by 588, and during the decade 1901–1911 by an additional 1,524, or for the twenty years under review by 2,112—though every allowance must be made for over-statement in the "Localities" census of 1911. Trangie's first appearance in census records was made in 1891 with 241 inhabitants, which number was increased by 762 during the first and by 161 during the second decade, or by 923 during the twenty years under review. Bogan Gate was first recorded in a census enumeration in 1901 with 256 inhabitants, which during the ten years ended with the census of 1911 had increased by 412.

Trundle dates from 1891, when the recorded number of its inhabitants was 98, a number which had decreased to 78 when the next census was taken. According to the census of "Localities" for 1911, the population of Trundle was 693—an increase of 615 on the figures of 1901, and of 595 on those of 1891.

By an oversight, or through confusion of location, the census of "Localities" for 1911 does not give the population of West Wyalong, an unincorporated township and goldfield situated mainly in the county of Gipps and in the Division of the Central Plain, a place distinct from the municipal district of Wyalong in the county of Bland, and in the Division of the South-Western Slope from which, however, West Wyalong was an extension. Wyalong proper, which was the parent settlement, had declined from its former position in a census enumeration from a population in 1901 numbering 1,515 to a population in 1911 numbering 1,042. According to the census of

"Localities" not otherwise defined for 1911, the population of Wyalong was 3,301, or an over-statement on the ascertained population of the delimited municipal district of 2,259, the probable population of the unincorporated township of West Wyalong. It must be noted that there is no formal division between the municipal district and its extension in the direction of the unincorporated township; for the gold-winning area is continuous, and the leads cross the boundary between the counties of Bland and Gipps, and between the territorial Divisions of the South-Western Declivity and the Central Plain.

McPhail came into prominence as a goldfield in 1901, and made its first appearance in the census of that year with a population of 616, which during the succeeding decade dwindled to 92 inhabitants, or a decrease of no less than 524. In the census of 1901, Peak Hill, Warren, Brewarrina, and Narromine are given as unincorporated townships with respective populations, in the order named, of 1,557, 860, 489, and 236. All these places were proclaimed as municipal districts prior to the taking of the census of 1901, and they have been referred to in the paragraphs relating to the municipalities of the Division.

Alectown, in the county of Kennedy, appeared for the first time in a census enumeration in 1891 with a population of 633, but the number declined during the succeeding decade to 264, or a decrease of 369 on the figures of 1891. A slight revival in gold-mining restored a few inhabitants, and the population in 1911 numbered 317, or an increase of 53 on the figures of 1901, but the loss of habitancy to the goldfield for the twenty years under review amounted to 316, or half of the population recorded for 1891.

The following table exhibits the municipal and non-municipal urban and the rural elements of the population of the Division of the Central Plain for the three census periods of 1891, 1901, and 1911:—

County.	Incorporated or Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Narromine	Municipal	—	..	2,038	...	2,631	...
	Non-municipal..	1,557	...	1,619	...	1,164	...
	Total	1,557	2,277	3,657	2,910	3,795	2,804
Gipps	Non-municipal..	—	1,590	1,696	1,837	—	4,584
Leichhardt	Municipal	1,141	1,681	1,680	1,802	2,262	2,281
Cunningham	Municipal	742	...	1,078	...	1,250	...
	Non-municipal..	—	...	—	...	1,361	...
	Total... ..	742	1,522	1,078	2,361	2,591	1,735
Oxley	Municipal	1,355	...	2,630	..	2,342	...
	Non-municipal..	860	...	—	...	—	...
	Total... ..	2,215	765	2,630	735	2,342	1,166
Ewenmar	Non-municipal..	—	1,997	683	2,876	2,207	724
Kennedy	Non-municipal..	633	1,210	—	1,766	—	2,367
Clyde	Municipal	—	1,274	683	762	798	784
Remainder of Division	...	—	2,792	—	2,715	—	3,084
Grand Total		6,288	15,108	12,107	17,764	13,995	19,529

The rate of urban progress for the twenty years under review of this Division was over 122½ per cent., but while the rate for the first decade was 92½ per cent., that for the second was only 15½. The municipal urban population nearly trebled during the period, but the unincorporated urban had an apparently gradual increase, owing to the transference of townships to the status of municipal districts. The urban element in the county of Narromine in the year 1891 was represented solely by the unincorporated goldfield township of Peak Hill, with a population of 1,557. Peak Hill was one of the four unincorporated townships which became municipal districts prior to the collection of the succeeding census, and this materially affected the natural increase of this class of urban-centre in the Division. The other three unincorporated townships referred to were Warren, Brewarrina, and Narromine.

The urban element in the population of the county of Narromine at the census of 1901 was represented by the municipal districts of Peak Hill and Narromine, and by the unincorporated townships of Trangie and McPhail. In 1911, according to the census of "Localities," the township of Trangie alone represented the unincorporated urban element in the country, the goldfield township of McPhail, a few miles to the northward of the municipal district of Peak Hill, having become deserted. Peak Hill is essentially a goldfields centre situated on the railway line which links up Parkes with Narromine and Cobar, and by other branches with Trundle, Condobolin, Forbes, and Orange.

The municipal district of Narromine, which since its inclusion as a railway station in the western system of intercommunication has made considerable progress, is the centre of a pastoral and an agricultural district, and is efficiently equipped with all the requirements, civic and administrative, of a township of its class. Trangie, another stable township in a district of a similar pastoral and agricultural type, devoted to sheep-breeding, wool-growing and general farming, particularly in cereals, is situated on the Dubbo-Nyngan-Cobar line, a position which has been a significant factor in its development.

McPhail is to-day little more than a deserted goldfield, though a few fossickers still explore its creeks and gullies, and occasional finds lend a temporary stimulus to the stock and share market. In the census of "Localities" for 1911 Peak Hill is listed as being partly in the county of Kennedy, adjoining that of Narromine, but the records of the preceding census lend no support to this extension of locality, moreover Peak Hill is a delimited municipal district, the boundaries of which fall within its original county.

The urban element in the county of Gipps is represented by the unincorporated goldfield township of West Wyalong for one census only, that of 1901, with a population of 1,696. It is interesting to note that the population of the county of Gipps in 1891 was purely rural, and that it numbered 1,590, in 1901 it numbered 3,533, and after subtracting the population of a goldfields township (itself devoted to primary production) the remaining purely rural population was 1,837, showing an increase of 247 on the figures of the preceding census. West Wyalong, for presumably explicable reasons which have already been discussed, was not represented in the census of "Localities" for 1911, and it is extremely improbable that the county of Gipps contained the whole of the straggling settlement, which, starting from the municipal district of Wyalong, in the county of Bland, followed the trail of the gold-leads to Upper Wyalong, and westward to Yalgogrin.

The urban element in the county of Leichhardt was represented solely by the municipal district of Coonamble, situated at the junction of the Mogomo-

dine Creek and the river Castlereagh. The centre of one of the finest sheep-breeding and wool-growing districts in Australia, the township is a depôt devoted chiefly to the needs of a pastoral community, and is admirably equipped to subserve the functions and conveniences of a stable provincial outpost. Agriculture is, however, not neglected, and the returns are especially encouraging for wheat, maize and potatoes, and horses and cattle are raised as well as sheep, though as subsidiary enterprises.

The urban element in the county of Cunningham was represented by localities both municipal and unincorporated. Of the former, the municipal district of Condobolin was the sole example, of the latter there were the two unincorporated townships of Trundle and Bogan Gate. Condobolin, the centre of a rich and extensive pastoral and agricultural terrain, is the present terminus of the Parkes-Broken Hill extension of the great direct Western Trunk line from Sydney to Adelaide. The district is a horse and cattle breeding, as well as a sheep-raising and wool-growing territory, and excellent prospects are evidenced of prosperous exploitation of its gold and copper deposits.

The sudden acquisition of population by the unincorporated township of Trundle is due, probably, to its situation as a railway station on the Bogan Gate-Tullamore northern branch of the Parkes-Condobolin railway line. It is not specially noteworthy except as the small centre and railway depôt of agricultural and pastoral territory, but in addition to the ordinary shops and stores it has a steam saw-mill. The unincorporated township of Bogan Gate owes its advancement in population to its importance as a railway junction and terminus, and to its usefulness as a collecting centre of agricultural and pastoral production.

The urban element in the county of Oxley was represented by the municipal district of Nyngan and the unincorporated township of Warren in 1891, and by the municipal districts of both Nyngan and Warren at the succeeding two census periods. Nyngan stands on the right bank of the Bogan River, and is a station on the Sydney-Bourke Western Railway, in the midst of a district in which agriculture is actively contesting a foothold in a region formerly purely pastoral. Warren, the centre of a rich pastoral district, is situated on the left bank of the river Macquarie, and is now tapped by a branch line of the Sydney-Bourke Western Railway, from Nevertire.

The county of Ewenmar was represented by the unincorporated township of Gilgandra, situated on the river Castlereagh, and on the Dubbo-Coonamble Railway Line, and devoted principally to pastoral and agricultural pursuits, it conducts also a subsidiary export trade in native timbers. The population for 1911, as given by the census of "Localities," appears to be an overstatement, especially in consideration of the local industries, which were those of primary production, and in view of the fact that the rural population of the county of Ewenmar, which showed an apparent increase from 1,997 in 1891 to 2,876 in 1901, was followed by an apparent decline in 1911, when the deduction of the inhabitants of Gilgandra, as recorded by the "Localities" census, would leave a rural population for the county of Ewenmar of only 724, exhibiting a decrease since the preceding census of 2,152.

The urban element in the population of the county of Kennedy was represented by the unincorporated township of Alectown, the goldfield to which reference has already been made. It is the headquarters of a sub-division of the Lachlan Mining District, and may yet experience an unexpected revival of its former fortunes. Clyde is represented in its urban element by the municipal district of Brewarrina, situated on the southern bank of the Darling River, and the centre of a district devoted mainly to the raising of

sheep, cattle, and horses. Brewarrina is not precisely in the Division of the Central Plain, but in that of the Plains East of the Darling—a sub-section of the Great Western Division, in which there are only eight municipalities and no shires, but as the county of Clyde is to some extent included in the Division of the Central Plain, and as no sub-divisional figures are available, it is convenient to include the whole of the county in this Division, with Brewarrina as an integral part of the county.

The remainder of the Division, comprising the counties of Gregory, Canbelego and Flinders, contained no urban element in their populations, which are all massed together. Of the foregoing urban centres, the municipal district of Nyngan has been described as situated in the counties of Oxley, Canbelego and Gregory, the municipal district of Warren as situated in the counties of Oxley and Ewenmar, the municipal district of Brewarrina as situated in the counties of Clyde and Narran, and the unincorporated township of Gilgandra as situated in the counties of Ewenmar and Gowen. Figures of subdivisional distribution are not available for the census of 1911, but those for the census of 1901 show that out of a population of 1,455 for the municipal district of Nyngan 1,407 persons were resident in the county of Oxley, and of the 1,175 for the municipal district of Warren 992 were resident in Oxley, that the entire population of Brewarrina numbering 683 persons was resident in the county of Clyde, and that the entire population of the unincorporated township of Gilgandra also numbering 683 persons was resident in the county of Ewenmar.

The figures showing the rural population are by no means satisfactory, when the nature of settlement is taken into consideration. The rural gain for the twenty years under review was only 4,421, or 2,656 for the first and 1,765 for the second decade, while the Division's gain in total population was 12,128 for the whole period, or 8,475 and 3,653 for the respective decades. The urban population, derived from the census of "Localities" not otherwise defined for 1911, is especially open to criticism, in view of the fact that out of 15,634 breadwinners in the Division 9,129 were primary producers, and that of these the majority comprised followers of pastoral pursuits, to whom large holdings are an essential factor of production. Excluding the counties of Gregory, Canbelego, and Flinders, which were unrepresented by any urban element, the apparent gain and loss of the rural population in the remaining counties of the Division were as follow :—

County. (Rural Population.)	1891-1901.		1901-1911.		1891-1911.	
	Gain.	Loss.	Gain.	Loss.	Gain.	Loss.
Narromine	633	...	...	106	527	...
Gipps	247	...	2,747	...	2,994	...
Leichhardt	121	...	479	...	600	...
Cunningham	839	...	...	626	213	...
Oxley ... ..	...	30	431	...	401	...
Ewenmar	879	...	...	2,152	...	1,273
Kennedy	556	...	601	...	1,157	...
Clyde ... ..	...	512	22	...	...	490
Remainder of Division ...	...	77	369	...	292	...

The fluctuation of population from census to census in different counties of the Division is partly explicable by the competition between the two species of land settlement, namely, agricultural and pastoral. As already explained, much of the accretion of rural population in the county of Gipps was due largely to the omission of West Wyalong in the enumeration of the 1911 census, and to its confusion with the municipal district of Wyalong. The loss of rural population in the county of Ewenmar is not so difficult of explanation, for the county as a whole had lost in population during the decade 1901-1911, though the habitancy of the unincorporated town of Gilgandra, with its ten-years' increment of 1,524 inhabitants (from 683 in 1901 to 2,207 in 1911) must be assignable to considerable overstatement.

The urban element in the county of Oxley was more apparent than real, the density of Nyngan's area of 2,970 acres being at the last census 0.40 persons per acre, while that of Warren, with an area of 14,592 acres (or nearly 23 square miles) was at the last census 0.08 persons per acre. The presumptive decline of Oxley's rural population is not sustained by the alleged urban character of the widely scattered population of a municipal district of so large an area.

The county of Clyde did not really lose 512 from its rural population during the first decade of the period under review, because Brewarrina, with 489 inhabitants, then an unincorporated township, was included in the total population of the county in 1891, not then having reached the urban standard. Were Brewarrina given urban status for 1891, the rural population of the county would be respectively 785 in 1891, 762 in 1901, and 784 in 1911, which is indicative of a continuous state of stagnation. The remainder of the Division showed a decline for the first, and a recovery for the second decade.

The following statement shows the municipal and the non-municipal urban and the rural elements in the constitution of the population for the three census periods under review :—

	1891.	1901.	1911.
Municipalities	3,238	8,109	9,263
Unincorporated Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911) of 500 Inhabitants and upwards	3,050	3,998	4,732
Total, Quasi-urban	6,288	12,107	13,995
Remainder of Division (Rural)	15,108	17,764	19,529
Total, Division	21,396	29,871	33,524

The rural nature of the industrial pursuits of the Division is shown by the fact that of 15,634 breadwinners, 9,129 were primary producers. The pastoralists numbered 4,859, the agriculturists 3,265, the miners 540, and "other" primary producers 465, including two females. The Class Industrial numbered 2,284, Domestic 1,526, Commercial 1,177, Transport and Communication 906, and Professional 726. Of the "Other" primary producers 251 were engaged in forestry, 105 in trapping and hunting, 102 in the conservation and supply of water, and 7 in fishing.

Of the workers in transport and communication 291 were engaged in traffic on railways, 236 in traffic on roads, and 3 in traffic on waterways. Of the Class Industrial 142 persons were engaged as workers in foods, etc., and 475 in building and construction, including the construction of railways. The miners were mostly in the county of Gipps in the West Wyalong and Yalgogrin regions, in the county of Narromine at Peak Hill and Tomingley, in the county of Kennedy in the Aleetown and Genanaging districts, in

the county of Cunningham at Trundle and other places, and in the counties of Canbelego and Flinders, winning gold, silver, and copper.

The following table exhibits the constitution of the population of the Division classified according to the occupations of the people at the census enumeration of 1911 :—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Male ..	13,742	3,189	4,814	540	463	9,006	2,145	1,052	601	404	869	75	4,736
Female ..	1,892	76	45	..	2	123	139	125	15	322	1,157	11	1,769
Total ..	15,634	3,265	4,859	540	465	9,129	2,284	1,177	706	726	1,526	86	6,505

Throughout the Division there were 17,600 dependents on natural guardians, or a proportion thereof of 1·13 to one of breadwinners of both sexes, and 1,157 females engaged in domestic service and attendance, or a proportion of 7·4 per cent. of the 15,634 breadwinners of both sexes as recorded at the enumeration of the census of 1911. According to proportionate adjustment on the basis already explained, the 9,129 primary producers would have, domiciled with them, 10,316 dependents on natural guardians on a ratio of 1·13 to 1, and 675 females engaged in domestic attendance on a ratio of 7·4 per cent. of all breadwinners. This gives a total rural population, or a population of the Class Primary Producers, and of their dependents and domestics domiciled therewith, of 20,120, making no allowance for other classes of occupations, the incidence of the callings and pursuits of which enlist their energies and necessitate their residence in rural districts. Obviously, therefore, the rural population of the Division, based on the census of "Localities" not otherwise defined, for the census year 1911, is considerably understated.

With reference to occupations of the people, it is necessary to note that the census of occupations for 1911 recorded 76 females as engaged in agriculture, and 45 in pastoral pursuits, or a total of 121 females engaged in these two branches of primary production, whereas the police returns for the year ended the 31st March, 1911, recorded 432 females as engaged in agriculture, and 75 females as engaged in dairying, or a total of 507 females engaged in these two branches of primary production, so that there were at the time of the census 356 females partially engaged in agriculture and partially engaged in domestic duties, and 20 females partially engaged in pastoral pursuits and partially engaged in domestic duties, or a total of 386 females partially engaged in these two branches of primary production, and partially engaged in domestic duties, who were returned as dependents on natural guardians.

For purposes of administration of the Local Government Acts the Division has been subdivided into eleven shires, or portions of shires, which, with their head-quarters, are as follow :—

Shire.	Headquarters.	Shire.	Headquarters.
Walgett ..	... Walgett	Timbreebongie...	... Narromine.
Wingadee ..	... Coonamble	Goobang ..	... Parkes.
Marthaguy ..	... Warren	Jemalong ..	... Forbes.
Bogan ..	... Nyngan	Bland ...	... West Wyalong.
Gilgandra ..	... Gilgandra	Weddin ..	... Grenfell.
Lachlan ..	... Condobolin		

The shires of this Division begin with Walgett, the northern boundary of which is the Barwon River, and the western the Marra Creek. The Divisional boundary follows the Marra Creek and the Crooked Creek southward along the western limit of the Marthaguy Shire to the head-waters of the Bogan, thence it follows the Bogan northward to a point a little beyond the 31st parallel of southern latitude, thence by a series of surveyed lines it runs south-west to Mount Boppy, and then south-south-east to the Lachlan River, enclosing Bogan Shire and part of Lachlan Shire; the boundary follows the course of the Lachlan in an easterly direction through the centre of Lachlan Shire to the beginning of the Coobothery Range, which it follows in a southerly direction to its termination, then, still directed south, it runs through the southern part of the shire of Lachlan and the north-eastern part of the shire of Bland, taking in the north-west corner of the shire of Weddin, and turning northwards through the shires of Jemalong and Goobang and enclosing the major part of the latter, it curves north and north-east, taking in the shire of Timbrelongie, the western fringe of the shire of Talbragar, and the shires of Gilgandra and Wingadee, turning north-west through the shire of Walgett along the mid-watershed between the Castlereagh and Namoi Rivers.

In the shire-list Walgett and Gilgandra are found duplicated as shires and as their unincorporated township headquarters. The shires of Goobang, Jemalong and Weddin have their headquarters in Parkes, Forbes and Grenfell respectively, the two first municipal districts in the Central Western Slope, and the third a municipal district in the South-Western Slope. The shires of Marthaguy, Wingadee, Bogan, Lachlan and Timbrelongie have as their headquarters, in the order named, the municipal districts, situated within their own boundaries, of Warren, Coonamble, Nyngan, Condobolin, and Narromine.

THE DIVISION OF THE RIVERINA.

The Division of the Riverina, which is a continuation of the watered plains, extending from the Great Western Declivity to the Bogan River on the north, and to the Lachlan River on the south, included the fifteen counties of Dowling, Nicholson, Sturt, Cooper, Bourke, Waradgery, Boyd, Mitchell, Cairn, Wakool, Townsend, Cadell, Urana, Denison, and Hume, in their geographical order, reading from west to east and from north to south.

The Division covers an area of 32,481 square miles, and is bounded on the north and north-west by the Lower Murrumbidgee River from its junction with the river Murray on the west to a point north bisecting the head-waters of Waldaira Creek, thence northward by a series of surveyed lines to the 34th parallel of south latitude, thence east-south-east by surveyed lines to the head-waters of Box Creek, thence south by a surveyed straight line to the Lachlan River, and by the latter north-eastward to the northern extremity of the Coobothery Range.

It is bounded on the south and south-west by the river Murray, from its junction with the Lower Murrumbidgee on the west, thence eastward to a point below the town of Albury, in the extremity of a range of hills constituting the southernmost section of the eastern boundary of the Division.

It is bounded on the east by the Coobothery Range, running southward from the river Lachlan, and from the termination of the Coobothery Range by surveyed lines, following roughly a low-lying course of hills to a spur a little to the south of Yalgogrin, by this spur, which curves south-eastward, southward, south-westward, and again south-eastward, but mainly in a southerly direction, to the mountainous northern boundary of the county of

Goulburn (in the Division of the South-Western Slope), thence westward by the northern boundary of the county of Goulburn to Jerra Jerra, thence southward by a spur ending in a point named Peddles Head, thence southward by surveyed lines to a spur running southward to the northern bank of the River Murray.

The Lower Murrumbidgee passes through the county of Caira from the north-east to the south-west, dividing it diagonally, and the police patrol includes the upper portion in the Western Division, but for purposes of comparison it is convenient to include the entire county in the Division of the Riverina.

The whole region is closely reticulated by numerous waterways, and the Government has made it the base of an experiment in irrigation which has probably no parallel outside Egypt or the United States of America. The Riverina is a theatre of great primary production, and though it was for years devoted almost exclusively to the breeding of sheep and to the growing of fine wool, it is being increasingly invaded by free selectors who are attracted thither from all parts of New South Wales and from the neighbouring state of Victoria across the river Murray.

The following statement, in a tabulated form, shows the comparative strength of the followers of these two branches of primary production at the 1911 census in the fifteen counties comprising the Division of the Riverina :—

Counties.				No. engaged in Agriculture.	No. engaged in Pastoral pursuits.
Bourke	(East)	...	...	2,816	227
Hume	(South-east)	...	...	1,838	447
Mitchell	(East)	...	...	1,317	356
Urana	(South-east)	...	...	1,165	523
Denison	(South)	...	...	913	318
Cooper	(East-central)	...	...	542	450
Cadell	(South)	...	...	379	192
Townsend	(South-west)	...	...	344	670
Wakool	(South-west)	...	...	226	515
Nicholson	(North-west)	...	...	131	175
Waradgergy	(West)	...	...	89	415
Boyd	(Central)	...	...	72	240
Dowling	(North, east, and west)	...	...	56	132
Caira	(West)	...	...	55	266
Sturt	(West-central)	..	...	20	213
Total				9,963	5,133

As might have been expected from the geographical incidence of settlement, the agricultural invasion came from the eastern and southern boundaries, and spread westward and northward. The counties in which agriculture is the leading industry are mainly eastern and southern counties, the western counties more slowly relaxing their hold of the vast squattages necessary to the great industry of wool-growing. It must be remembered, in considering these figures, that a huge area of pastoral property included in a single sheep run often occupies the greater part of a county, and can be managed with fewer hands than a moderate-sized agricultural holding. Nevertheless, even the county of Townsend, engaging in 1911 the activities of 670 persons following pastoral pursuits, employed 344 persons as agriculturists, while the county of Bourke, which employed 2,816 persons as agriculturists, supplied the material of labour to only 227 persons following pastoral pursuits. Townsend is one of the western pastoral counties of the Division, and Bourke is on the eastern side, with its boundary fringing the South-Western Slope.

Other predominantly agricultural counties on the western limits of the South-Western Slope are Hume and Mitchell, in 1911 employing respectively 1,838 and 1,317 agriculturists, as against 447 and 356 persons following pastoral pursuits. The county of Urana, next in western geographical progression to Hume and Mitchell, employed 1,165 agriculturists as against 523 persons following pastoral pursuits. Even in counties like Dowling, in which squattages of great extent are the rule, 56 agriculturists were employed as against 132 persons following pastoral pursuits. A consideration of the foregoing statement will reveal the progress of an almost unsuspected evolution in settlement in this Division, and a supersedure of one form of primary industry by another.

The population of the fifteen counties comprising the Division of the Riverina, and the density of population of persons per square mile, at the three census enumerations of 1891, 1901, and 1911, are shown in the subjoined table :—

Counties.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Bourke	2,230	3,451	4,955	10,040	1·55	2·22	4·50
Hume	1,575	5,128	6,720	9,367	3·26	4·27	5·95
Urana	3,082	3,121	4,252	6,108	1·01	1·38	1·98
Cooper	2,880	3,489	4,126	5,362	1·21	1·43	1·86
Mitchell	1,465	2,582	3,419	4,879	1·76	2·33	3·33
Denison	1,145	1,866	4,407	4,716	1·63	3·85	4·12
Townsend	3,619	3,863	4,581	4,474	1·07	1·27	1·24
Waradgery	2,821	4,304	3,918	3,164	1·53	1·39	1·12
Cadell	885	1,856	2,469	2,593	2·10	2·77	2·90
Wakool	2,997	991	1,734	2,325	0·33	0·58	0·78
Nicholson	2,229	1,661	1,818	1,461	0·75	0·82	0·66
Caira	2,590	1,353	1,300	1,363	0·52	0·50	0·53
Boyd	1,534	890	950	847	0·58	0·62	0·55
Sturt	1,596	760	732	654	0·48	0·46	0·41
Dowling	1,833	871	827	653	0·48	0·45	0·36
Total	32,481	36,186	46,208	58,006	1·11	1·42	1·79

The Division of the Riverina has increased in population during the twenty years under review by 21,820, or by 10,022 persons for the first and by 11,798 for the second decade, the density of population ranging from 1·11 persons per square mile in 1891 to 1·42 in 1901, and to 1·79 in 1911. There has been great diversity of development in the Division, some counties, of which Bourke is the best example, gaining nearly 200 per cent. in twenty years on the population of 1891, and others, like Waradgery, losing nearly 27 per cent. in the same period. With a population of 3,451 inhabitants in 1891, the county of Bourke, the most populous in the Division, but second with regard to density of persons per square mile, gained 6,589 persons during the twenty years under review, or 1,504 for the first and 5,085 for the second decade, the density of population ranging from 1·55 in 1891 to 2·22 in 1901, and to 4·50 in 1911.

The county of Hume, second in population but first in density of the counties of the Division, had a population in 1891 of 5,128 (exceeding that of Bourke for the same census by 1,677), and gained 4,239 persons during the period 1891–1911, or 1,592 for the first and 2,647 for the second decade, the density ranging from 3·26 in 1891 to 4·27 in 1901, and to 5·95 in 1911.

The county of Bourke undoubtedly owes its present superiority of population to the wave of settlement made by the free-selectors, which there was strongest, for it possesses no municipal townships, and as against its four

unincorporated centres (Coolamon, Grong Grong, Ganmain and Ariah), the county of Hume had the municipal district of Corowa, besides the four unincorporated townships of Culcairn, Henty, Howlong, and Walla Walla.

The county of Urana, which contained the municipal district of Jerilderie, and the incorporated townships of Lockhart, Urana, and Oaklands, was third in population though sixth in density of the counties of the Division. It had in 1891 a population of 3,121, and gained during the twenty years under review 2,987 persons, or 1,131 during the first and 1,856 during the second decade, the density of population ranging from 1.01 in 1891 to 1.38 in 1901, and to 1.98 in 1911.

The county of Cooper, containing the proclaimed borough of Narrandera, fourth in order of population but seventh in order of density, had in 1891 a population of 3,489, and gained during the period 1891-1911 an additional 1,873 persons, or 637 for the first and 1,236 for the second decade, the density of population ranging from 1.21 persons per square mile in 1891 to 1.43 in 1901, and to 1.86 in 1911.

The county of Mitchell, containing the unincorporated townships of The Rock (or Kingston) and Yerong Creek, was fifth in order with respect to population, but fourth in density. In 1891 Mitchell had a population of 2,582, and during the twenty-years' period gained 2,297 persons, or 837 for the first and 1,460 for the second decade, the density of population ranging from 1.76 in 1891 to 2.33 in 1901, and to 3.33 in 1911.

The county of Denison, which contained the unincorporated townships of Berrigan, Tocumwal, Finley, and Mulwala, though sixth in order of population, was third in order of density, and had in 1891 a population of 1,866, having gained 2,850 persons during the twenty years under review, or 2,541 for the first and 309 for the second decade, the density of population ranging from 1.63 in 1891 to 3.85 in 1901, and to 4.12 in 1911. In all these cases the order of density is taken as at the last census.

Townsend, containing the municipal district of Deniliquin, seventh in population of the counties of the Division, and eighth in order of density, had in 1891 a population of 3,863, and gained 611 persons during the period 1891-1911, or 718 for the first less a loss of 107 for the second decade, the density of population ranging from 1.07 in 1891 to 1.27 in 1901, and to 1.24 persons per square mile in 1911.

The county of Waradgery, containing the municipal district of Hay, was eighth in order of population and ninth in density, and had in 1891 a population of 4,304, and in 1911 one of 3,164, thus showing a loss for the whole period under review of 1,140 persons, or a decrease for the first decade of 386 and for the second of 754, the density of persons per square mile ranging from 1.53 in 1891 to 1.39 in 1901, and to 1.12 in 1911.

The county of Cadell, containing the municipal district of Moama, ninth in order of population but fifth in order of density, had in 1891 a population of 1,856, and gained 737 persons during the twenty-years' period, or 604 for the first and 124 for the second decade, the density ranging from 2.10 persons per square mile in 1891 to 2.77 in 1901, and to 2.90 in 1911.

The county of Wakool, which contained the unincorporated township of Barham, was tenth both in order of population and in density, and had at the census of 1891 a population of 991. The gain during the twenty years under review was 1,334, or 743 for the first and 591 for the second decade, the density of population in the county of Wakool ranging from 0.33 in 1891 to 0.58 in 1901, and to 0.78 persons per square mile in 1911. The county of Nicholson, containing the municipal district of Hillston, eleventh in order both of population and density, had in 1891 a habitation of 1,661 persons, but sustained a loss of 200 during the twenty-years' period, for though there was an increase of 157 for the first decade, there was a decrease of 357 for

the second, the density per square mile ranging from 0.75 in 1891 to 0.82 in 1901, and to 0.66 in 1911.

The county of Cairn, containing the municipal district of Balranald, was twelfth in population and thirteenth in density, and had in 1891 a population of 1,353, which increased by ten persons during the twenty years under review, the decrease for the first decade numbering 53, the density of population fluctuating from 0.52 persons per square mile in 1891 to 0.50 in 1901, and to 0.53 in 1911. The county of Boyd, lacking any urban element, and listed as thirteenth in population and twelfth in density, had in 1891 a habitancy of 890 persons, and suffered a loss of 43 during the period 1891-1911, counterbalancing a gain of 60 for the first by a loss of 103 during the second decade, the density of persons per square mile ranging from 0.58 in 1891 to 0.62 in 1901, and to 0.55 in 1911.

The county of Sturt, also entirely rural, was fourteenth in order both of population and density. Its population in 1891 numbered 760, and its loss for the twenty years under review amounted to 106, or to 28 for the first and 78 for the second decade, the density of persons per square mile ranging from 0.48 in 1891 to 0.46 in 1901, and to 0.41 in 1911. The county of Dowling, fifteenth and last of the counties of the Division, was likewise lowest in population and density. In 1891 Dowling, which was entirely rural, had 871 inhabitants, and during the twenty years 1891-1911 lost 218, or 44 for the first and 174 for the second decade, the density of persons per square mile ranging from 0.48 in 1891 to 0.45 in 1901, and to 0.36 in 1911.

Of the fifteen counties of the Division of the Riverina eight gained in population continuously, one lost on the first but gained on the second decade, one lost on the second decade but gained on the whole twenty years, three lost throughout, four lost on the first and six on the second decade, and five showed populations in 1911 lower than those shown by them in 1891.

The following table exhibits the population of the municipalities of the Division, according to the counties in which they were situated, for the three census periods of 1891, 1901, and 1911 :—

Municipality.			County.	1891.	1901.	1911.
Deniliquin	...	...	Townsend	2,273	2,644	2,494
Hay	...	...	Waradgery	2,741	3,012	2,461
Narrandera	...	...	Cooper	1,815	2,255	2,374
*Corowa	...	...	Hume	...	...	2,063
Moama	...	...	Adell	716	928	841
Balranald	...	...	Cairn	637	741	720
Jerilderie	...	...	Urana	541	744	718
Hillston	...	...	Nicholson and Franklin	734	843	644
Total				9,457	11,167	12,315

* Corowa was proclaimed a municipal district on the 13th June, 1903.

The municipal population during the twenty years under review gained 2,858 persons, or 1,710 for the first and 1,148 for the second decade. Of all the municipalities detailed in the foregoing table, Narrandera alone showed a slight increase on the figures of 1901. Corowa, a municipal district dating from 1903, showed an increment of only seventeen persons on its population of 1901, when it was an unincorporated township. In 1911 the municipal district of Corowa was accredited with 2,063 inhabitants, a number which, deducted from the total municipal habitancy of the Division into which it was a first arrival in the year mentioned, would leave a balance of 10,252, a result showing an absolute loss of 915 persons on the municipal population of the Division as recorded in 1901. The municipal urban element throughout the Riverina displayed an upward tendency from the census of 1891 to that of 1901, and then, with the single exception of Narrandera,

already noted (the increase of which proclaimed borough was, by the way, only 119 for the second decade of the period under review), declined throughout the Division from the census of 1901 to that of 1911.

Deniliquin, which was proclaimed a municipal district on the 16th December, 1868, made its first appearance in a census enumeration in 1856 with a population of 155, in 1861 it was recorded as 632, in 1871 (then a municipal district) as 1,118, and 1881 as 2,506. As a result of the railway war between the colonies of New South Wales and Victoria, it declined with the westward extension of the railways of the Riverina, and in 1891 its population, numbering then 2,273, showed a decrease of 233 persons. From the last-mentioned year to the census of 1901 its increase for the decade was 371 persons, but during the decade 1901-1911 Deniliquin lost 150 persons, so its total gain for twenty years was 221, and its total population in 1911 was less by twelve than its total population in 1881.

In 1861 Hay, then an unincorporated village, was accredited with 172 inhabitants, in 1871 the population had risen to 664. On the 10th June, 1872, Hay was proclaimed a municipal district, and the succeeding census of 1881 recorded its population as 2,073. During the succeeding ten years it gained an additional 668 inhabitants, its population in 1891 standing at 2,741, from which standard it has declined during the twenty years under review to 2,461, with a loss of 280 inhabitants, for though it gained for the first decade 271 persons it lost 551 during the second.

In the prosperous days of the West, and particularly of the Riverina subdivision of the West, Deniliquin and Hay were important wool-collecting depôts, from which numerous bullock-teams hauled the rich staple to the banks of the Murray River for transport to Echuca, the principal railway terminus on the Victorian border, with a direct line of communication with the shipping port of Melbourne. With the cessation of the warfare of freight-tariffs, which raged for years between the Governments of New South Wales and Victoria in pre-Federation days, these centres of wool transport and communication greatly declined, and their importance was largely superseded by the unincorporated towns which subserve the civic conveniences and social services of the farms of the wheat-belt.

At the census of 1911, Deniliquin, with a population of 2,494, exhibited a density of 0.08 persons per acre, a very slight variation on that of 1891, but its municipal district area is 32,000 acres, or 50 square miles. Hay, with an area equal to that of Deniliquin, fluctuated in density of population from 0.08 persons per acre in 1891 to 0.09 in 1901, and back to 0.08 in 1911.

Narrandera appeared first in a census enumeration in 1871 with 142 inhabitants, which increased by exactly 1,000 during the decade ended at the succeeding census. On the 17th March, 1885, Narrandera was proclaimed a borough, and at the census of 1891 its population numbered 1,815, which, during the twenty years 1891-1911, increased by 559 persons, or by 440 during the first and by 119 during the second decade, the density ranging from 0.39 persons per acre in 1891 to 0.49 in 1901, and to 0.51 in 1911, over an area of 4,640 acres, or $7\frac{1}{4}$ square miles.

Corowa's first appearance in a census enumeration was in that of 1871 with 244 inhabitants. In 1881 the population had increased to 495, and in 1891 to 1,171. In 1901 this unincorporated river township had gained 875 persons on the figures of the preceding census, but only 17 in 1911 on those of 1901. It was proclaimed a municipal district on the 13th June, 1903, and its gain in population for the twenty years under review was 892, the density of population ranging from 0.14 in 1891 to 0.25 in 1901 and 1911, over an area of 8,040 acres, or of somewhat over $12\frac{1}{2}$ square miles.

Moama, another river township, appeared in the census enumeration of 1861 with 144 inhabitants, which increased to 281 in 1871, and to 1,204 in 1881. On the 29th. December, 1890, Moama was proclaimed a municipal

district, and the population at the succeeding census of 1891 was recorded as 716. It gained only 125 persons during the twenty years under review, for although there was for the first decade an increase of 212 persons, the decrease for the succeeding ten years amounted to 87, and the density of population ranged from 0·02 in 1891 to 0·03 in 1901 and 1911 over an area of 32,180 acres, or of somewhat over 50½ square miles. Moama's greatest population (namely, 1,204) was recorded in 1881, when it was 363 in excess of that enumerated thirty years subsequently.

Balranald appeared first in a census record in 1871 with 233 inhabitants, which by 1881 had increased to 646, and by 1891 had declined to 637. On the 27th September, 1882, it was proclaimed a municipal district, and has since made no progress. Its total gain for the period under review was 83 persons, for though it gained 104 in the first it lost 21 in the second decade, the density of population remaining persistently at 0·02 persons per acre over an area of 30,720 acres, or 48 square miles. Jerilderie first appeared in a census enumeration in 1871 with 171 inhabitants which had increased by the next census to 353, and by 1891 to 541. Jerilderie was proclaimed a municipal district on the 4th November, 1889, and during the twenty years 1891-1911 gained 177 persons, for though it increased by 203 in the first decade it decreased by 26 in the second, and its density remained practically the same, namely 0·02 persons per acre over an area of 32,000 acres, or 50 square miles.

Hillston made an appearance in a census record in 1881 with a population of 337, which by 1891 had increased to 734. It was proclaimed a municipal district on the 8th December, 1888, but for the twenty years under review it lost 90 persons, for although in the first decade it gained on the figures of 1891 by 109, it lost in the second 199, and the density of the population rose from 0·02 persons per acre in 1891 to 0·03 in 1901, and fell to 0·02 in 1911, over an area of 32,000 acres, or 50 square miles.

The following table shows the population of the unincorporated towns and villages in the Division for the three census periods of 1891, 1901, and 1911, including those which at any time during the twenty years under review reached the urban standard:—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Coolamon	Bourke	319	418	...	...	1,694
Lockhart	Urana	—	329	—	...	1,406
Berrigan	Denison	254	...	...	523	1,090
Ganmain	Bourke	—	...	—	533	1,033
Henty	Hume and Mitchell	123	...	...	521	968
Walla Walla	" "	183	346	...	...	958
Tocumwal	Denison	325	417	...	...	788
Urana	Urana	397	301	...	...	694
Finley	Denison	—	294	—	...	678
The Rock (Kingston)	Mitchell	217	366	...	...	672
Culcairn	Hume and Goulburn	197	253	...	...	667
Mulwala	Denison	206	417	...	...	636
Barham	Wakool	—	140	—	...	618
Ariah	Bourke	—	—	—	—	589
Yerong Creek	Mitchell	206	297	...	...	587
Grong Grong	Bourke	58	248	...	...	567
Oaklands	Urana	—	—	—	—	560
Howlong	Hume	425	479	...	...	545
*Corowa ... ..	" "	...	...	1,171	2,046	...
Total, over 500 Inhabitants...		1,171	3,623	14,750		

* Corowa was proclaimed a municipal district, 13th June, 1903.

The foregoing table reveals a remarkable urban development of unincorporated townships and villages at the census of 1911. Corowa alone represents the urban element of the Division in 1891, and Corowa, Berrigan, Ganmain, and Henty in 1901; but Corowa was proclaimed a municipal district prior to the taking of the last census, and should, therefore, for purposes of comparison, have its population deducted from the census periods of 1891 and 1901. Having deducted the population of Corowa from the totals showing the unincorporated urban element in the Division, the result is:—1891, nil; 1901, Berrigan, Ganmain, and Henty, 1,577; 1911, "Localities" not otherwise defined, 14,750, showing the extraordinary advance of 13,173 on the figures of the preceding census.

The over-statement in the "Localities" census of 1911 of municipalities of defined areas in this Division, the population of which had been ascertained independently, was at the rate of 13·7 per cent., and would probably be greater in the case of unincorporated "Localities" not otherwise defined, the areas of which were unknown quantities. It must, however, be conceded that the growth of the unincorporated urban element has been greatest in the counties in which agriculture, bringing fresh needs in its train, has displaced and subjugated the more primitive primary pursuit of the pastoralist.

The unincorporated township of Coolamon with 319 inhabitants in 1891 (its first appearance in a census enumeration), gained during the succeeding ten years only 99 persons, but the increase for the second decade was apparently 1,276. The village of Lockhart, previously unlisted, had in 1901 a population of 329, which was increased by 1,077 persons in the decade following. Berrigan's first appearance in a census was in 1891 with a population of 254, which gained 269 persons during the first and 567 during the second decade, or 336 for the twenty years under review. Ganmain's first appearance in a census was in 1901 with 533 inhabitants, which increased by exactly 500 during the period 1901-1911. Henty dates from the census of 1891 with a population of 123, which during the twenty years under review increased by 845, or by 398 for the first and by 447 for the second decade.

Walla Walla also dates from 1891 with a population of 183, which during the twenty years' period increased by 775, or by 163 for the first and by 612 for the second decade. Tocumwal, dating from 1891, came into a census record with 325 inhabitants, which increased by 463 during the period 1891-1911, or by 92 for the first and 371 for the second decade. Urana, an unincorporated village in the county of the same name, made its first appearance in the census enumeration of 1871 with a population of 113, which increased by the year 1881 to 393, and stood at 397 in 1891. During the twenty years under review Urana gained 297 additional inhabitants, losing 96 persons in the first but retrieving its position in the second decade, with a gain of 393 on the figures of the preceding census.

Finley dates from 1901 with 294 inhabitants, which number was increased by 384 at the last census. The Rock, called also Kingston, made its first appearance in a census enumeration in 1891 with 217 inhabitants, and its increase for the twenty years under review amounted to 455 persons, or 149 for the first and 306 for the second decade. Culcairn dates from 1891 with 197 inhabitants, which increased for the period 1891-1911 by 470, or by 56 for the first and by 414 for the second decade. Mulwala appeared for the first time in a census enumeration in 1891 with 206 inhabitants, which increased by 211 during the first and by 219 during the second decade, or by 430 for the twenty years 1891-1911. Barham came into a census in 1901 with 140 inhabitants, which number increased by 478 in the ten years succeeding.

Ariah, late Ariah Park, made its first appearance in a census enumeration in 1911, with a population of 589. Yerong Creek dates from 1891, when it had a population of 206, which increased during the first decade by 91 persons and during the second by 290, or by 381 for the twenty years under review. Grong Grong dates from 1891 with 58 inhabitants, which increased during the first decade by 190 persons and during the second by 319, or by 509 for the twenty years 1891-1911. Oaklands made its first appearance in a census enumeration in 1911 with a population of 560. Howlong dates from the census of 1871, when it was accredited with a population of 107, which by the year 1881 had increased to 422, and stood in 1891 at 425. During the twenty years under review Howlong has practically stood still, its gain in population during the period amounting only to 120 persons, or an increase of 54 for the first and of 66 for the second decade.

The following table shows the municipal and non-municipal urban and the rural elements in the population of the Division for the three census periods of 1891, 1901, and 1911:—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Bourke	Non-municipal ...	—	3,451	533	4,422	3,883	6,157
Hume	Municipal ...	—	...	—	...	2,063	...
	Non-municipal ...	1,171	...	2,567	...	3,138	...
	Total ...	1,171	3,957	2,567	4,153	5,201	4,166
Urana	Municipal ...	541	...	744	...	718	...
	Non-municipal ...	—	...	—	...	2,660	...
	Total ..	541	2,580	744	3,508	3,378	2,730
Cooper	Municipal ..	1,815	1,674	2,255	1,871	2,374	2,988
Mitchell	Non-municipal ...	—	2,582	—	3,419	1,259	3,620
Denison	„ ...	—	1,866	523	3,884	3,192	1,524
Townsend	Municipal ...	2,273	1,590	2,644	1,937	2,494	1,980
Waradgery ..	„ ...	2,741	1,563	3,012	906	2,461	703
Cadell	„ ...	716	1,140	928	1,541	811	1,752
Wakool	Non-municipal ...	—	991	—	1,734	618	1,707
Nicholson	Municipal ...	734	927	843	975	644	817
Caira	„ ...	637	716	741	559	720	643
Remainder of the Division	... ..	—	2,521	—	2,509	—	2,154
Grand Total		10,628	25,558	14,790	31,418	27,065	30,941

The total increase in the urban element of the Division of the Riverina for the twenty years under review appears from the foregoing table to amount to 16,437, or 4,162 for the first and 12,275 for the second decade—an increase

for the ten years 1901-1911 which appears disproportionate, and worthy of examination. Bourke, the most populous county in the Division, was not represented by any municipality as an urban unit in the census, but by the four unincorporated hamlets and villages (which ultimately developed into the townships) of Coolamon, Ganmain, Ariah (late Ariah Park), and Grong Grong.

Coolamon, the centre of an essentially agricultural and pastoral district, but predominantly agricultural, is situated on the Great South-Western Line, linking-up Junee Junction and Hay. Coolamon possesses the usual hotels, stores, tradespeople's shops, cordial factories, &c., of an out-west township, but its civic and administrative services are limited, and a Land Board sits only when required. The product of the surrounding terrain is principally wheat. Ganmain, formerly the centre of an exclusively pastoral country, is now the headquarters of a region entirely agricultural, being distant only 9 miles from Coolamon, and the excellent quality of its wheaten chaff has passed into a proverb. Ganmain is, however, only a moderate-sized township, with the usual hotels, stores and shops of tradespeople, and a local saw-mill, and it derives no small part of its importance from its position as a grain dépôt on the Great South-Western Railway line.

Ariah, for a considerable period known as Ariah Park, is situated on the branch railway line designed to link-up Cootamundra and Hillston, but not, so far, continued beyond the township of Griffith. Ariah is a new-comer in the list of the townships of the State, and undoubtedly owes its urban importance to its position as a railway station in a wheat-growing district. In addition to the usual hotels, stores, shops of tradespeople, &c., it has social clubs, a court of petty sessions, banks, a newspaper printery, and a brickmaking establishment. Grong Grong is a small township situated on the Great South-Western Line, between Junee Junction and Narrandera, and beyond a couple of hotels, a couple of blacksmiths and wheelwrights' shops and four or five stores, possesses few of the conveniences of social life, or the services of civic and administrative government.

Hume, the oldest settled of the counties of the Division, is represented in its urban element by the municipal district of Corowa, and the unincorporated townships and villages of Henty, Walla Walla, Culcairn, and Howlong. Corowa is situated on the northern bank of the Murray River, and is the centre of a region devoted to wheat, wool, and wine growing. It is in every respect a well-equipped provincial western town, with most of the conveniences of domestic and social life, in communication with the metropolis by rail by means of a branch line from Culcairn, and it enjoys in addition all the advantages of a river town. It has hotels, banks, general stores, a newspaper printery, social and athletic clubs and societies, a law court, a land board, and all the machinery of administrative and civic life.

The unincorporated township of Henty is situated on the Great Southern Railway, about midway between Wagga Wagga and Albury. Besides the hotels, shops of tradespeople and general stores, it possesses a newspaper, wine cellars, brickworks, a cordial factory, police courts, banks, agricultural, athletic, and social societies, clubs and associations, and the other conveniences of urban existence. Walla Walla is a small township situated on the branch line from Culcairn to Corowa, running through the new wheat-lands of the Riverina. Beyond its significance as a railway grain-dépôt, Walla Walla is not specifically noteworthy.

Culcairn, an unincorporated township and railway junction, is also a grain-dépôt in the midst of the new wheat-belt of the Riverina. It has all the conveniences of a country railway township, including a newspaper, and it possesses brickworks and saw-mills. Howlong is

the unincorporated centre of a district devoted to wheat and wool growing, intermingled with dairying and the cultivation of grapes for wine-making, and a viticultural farm is situated some four miles below the township, which is not far from the northern bank of the Murray River, and about nineteen miles from Albury. Besides the usual hotels, stores, etc., it has flour-mills, saw-mills, and coach-repairing works.

The county of Urana is represented in its urban element by the municipal district of Jerilderie, and the unincorporated townships and villages of Lockhart, Urana and Oaklands. Jerilderie was one of the townships "held up" by the Kelly Gang, a notorious band of bushrangers that flourished in the later seventies. Situated on the Billabong Creek, an affluent of the Edwards River, Jerilderie is connected also with a branch line linking-up Narrandera with the Victorian system at Tocumwal. The surrounding district is both agricultural and pastoral, and the municipal township is well furnished with hotels, stores, shops, grain-depôts, wine-vaults, societies, a court-house, banks, schools, and all the appurtenances of urban provincial life.

Lockhart is a flourishing unincorporated township on a branch line running from The Rock (Kingston) through the new wheat-belt to Oaklands. It has the ordinary conveniences of an out-west centre, consonant with its growing importance as a railway grain-depôt. Oaklands is the present terminus of the line, but its progress is hardly commensurate with its situation.

The county of Cooper is represented in its urban element exclusively by the proclaimed borough of Narrandera, connected with eastern, southern and western lines of railway communication, and situated on the Murrumbidgee River, a little above its junction with Yanco Creek. The river is navigable as far as Narrandera during six months of a favourable year, and was formerly used by barges and tugs for the water-carriage of wool. The surrounding district is still largely devoted to pastoral pursuits, but agriculture is making new headway with every passing year, and wheat is already beginning to contest with wool the claim of being the staple product of the region.

About 15 miles from the township of Narrandera is the Murrumbidgee Irrigation Area, the scene of a great State enterprise in cultivation. The development of the scheme must have an effect on the future of the township which cannot, so far, be foreseen, but the centre is already well equipped with all the civic services and conveniences of a prosperous provincial town. It possesses, in addition, flour-mills, chilled-meat works, large saw-mills and several wool-washing establishments, and it is an export depôt for pine and red-gum.

The county of Mitchell is represented in its urban element in the Division by The Rock (Kingston) and Yerong Creek. Both of these unincorporated townships are situated on the Great Southern Railway line, within a distance of ten miles of each other, and they are both surrounded by the wheat-lands of eastern Riverina. Both are small centres, but Yerong Creek, besides the usual hotels and stores, possesses a steam saw-mill.

The urban element in the county of Denison is represented by the four unincorporated townships of Berrigan, Tocumwal, Finley, and Mulwala. Berrigan has the ordinary equipment of an out-west country centre in hotels, stores, and other conveniences of social existence; and it has also certain adjuncts of civic administration, a monthly court of petty sessions, banks, a newspaper, an agricultural society, social, athletic and sporting clubs, saw-mills, and a soap factory. It is a railway terminus and a railway junction, and a collecting depôt for the wheat-belt areas.

Tocumwal is situated on the Murray River, on the railway line from Narrandera, and 25 miles south from Berrigan. In addition to the ordinary

administrative, commercial and social services and conveniences of a progressive river and railway township, it has both flour and saw mills, the surrounding district employs a considerable number in the red-gum timber industry, and orange-groves have been planted on a large scale.

Finley, another small township of the Riverina wheat-belt, is situated on the railway line from Narrandera to the Victorian border, about midway between Berrigan and Tocumwal; and Mulwala, a still smaller township, is situated on the northern bank of the Murray River. Both of these places await a future which is mainly dependent on the agricultural development of the surrounding district, though Mulwala has timber resources in addition to the production of hitherto only partially exploited arable land.

The urban element in the county of Townsend was represented solely by the municipal district of Deniliquin, for many years the great *dépôt* and gathering-place of the wool transport trade, undertaken by bullock-haulage from the sheep stations "out west" to the Murray River, or direct to the Victorian railway system which terminated at Echuca, on the southern bank of the great waterway, which was utilised for carrying wool from sheep-stations on and beyond the Darling, and the other streams of the Riverina, which, unlike the Murray, were navigable only in years of adequate rainfall. Deniliquin for years claimed pride of place as the chief town in the Division, a position it securely held for a long period while wool-growing was the supreme industry, and railway extension had not yet opened up this vast watered terrain to the exploitation of the agriculturist.

Deniliquin is situated on the Edwards River, at the eastern point where it subdivides into the number of watercourses which constitute the network of streams forming the Wakool delta. This town has the unique distinction of being the only centre of first importance in the State to be linked with the Victorian system of railways by a private line, 45 miles in length and costing £3,000 a mile to construct, and the iron bridge over the Murray involved the additional expenditure of £80,000. The line was opened to traffic on the 4th July, 1876, and made the town the terminus of a great deal of the wool-transport trade by bullock teams from every point of the compass.

Deniliquin has many of the characteristics of an inland city, and travellers profess to find in it many reminiscences of old-time Bathurst. It has a large business, industrial and professional community, and all the social equipment of societies, clubs, and associations requisite to its needs. The surrounding district contains valuable forest reserves, particularly of red-gum, which is in great demand for railway construction, and wide areas of country are coming under the plough.

The urban element in the western county of Waradgery finds its sole representative in the municipal district of Hay, situated in the midst of an almost pastoral region. This courtesy city, for it is the centre of the Anglican see of Riverina and the residence of the Bishop, stands on the northern bank of the Murrumbidgee River, and is the terminus of the branch western line from Narrandera. In favourable years, and for a period of six months in succession, the Murrumbidgee is navigable to its junction with the Murray, and steamers then ply regularly to Echuca. Hay is, however, a declining centre, notwithstanding the fact that it is on the main line of road for stock travelling from the northern and western districts of New South Wales to Victoria, and the principal receiving *dépôt* for the wool produced on the sheep stations watered by the rivers Lachlan and Murrumbidgee. Hay has the comfortable equipment common to pastoral towns, but the primary industry by which it subsists is not conducive to urban development, and it will continue to stagnate until the terrain of which it is the centre is invaded by free-selecting agriculturists, for the pasturage is admirably suited to the establishment of dairy-farming.

The county of Cadell is represented in its urban element only by the municipal district of Moama, situated on the north bank of the river Murray, being the border town of New South Wales at this point. It is also the terminus of the company-owned railway line already referred to, which connects it with Deniliquin. Exclusively pastoral for many years, the surrounding district is gradually coming under tillage, and the neighbouring river-flats have been reserved for the systematic culture of red-gum for the future timber-needs of the State. Moama was formerly known as Maiden's Punt, significant of the manner in which the wool-teams were carried across the river in pre-railway days. The township is at present languishing, its nearness to the Victorian river township of Echuca, in many respects better equipped and more progressive, operating to retard its growth.

The urban element in the county of Wakool was represented by the unincorporated township of Barham, situated on the northern bank of the river Murray, and devoted principally to the saw-milling industry in red-gum, of which timber-tree great quantities grow on the flats on both sides of the stream. Besides saw-mills, Barham has a few stores, a couple of hotels, and a butter factory. It was once a customs collecting office on the New South Wales-Victorian border.

The urban element in the county of Nicholson was represented by the municipal district of Hillston, which is declining as a township, though it contains, besides the usual complement of hotels, stores, banks, etc., a brewery, a wool-washing establishment, steam saw-mills, a steam-roller flour-mill, and a cordial factory. Situated on the left bank of the river Lachlan, it takes rank with Brewarrina and Balranald as an outpost of settlement within incorporated areas, though Brewarrina, the northernmost place of the three, is somewhat inside the eastern limit of the great Western Division. The surrounding country is well adapted for the cultivation of wheat, and with the advent of the free selector, a new era of progress will begin along agricultural lines.

The urban element in the county of Caira is represented by the municipal district and outpost township of Balranald, which like Hillston is the stagnating centre of a pastoral district, though not wholly so, for it produces some wheat, a little barley, and a limited quantity of wine, and it breeds pigs, as well as sheep, cattle, and horses. The town itself contains the customary hotels and stores and the shops of general utility tradesmen, and the necessary machinery for land and civic administration exists, together with societies, clubs and associations for the cultivation of athletics, sport, local needs and social intercourse. Balranald is situated on the river Murrumbidgee, midway between its junction with the Lachlan on the north and the Murray on the south-west—an ideal position for the urban centre of a more progressive district.

The following statement shows the constitution of the population of the Division in its municipal and non-municipal urban and in its rural elements at the census periods of 1891, 1901, and 1911:—

Division.	1891.	1901.	1911.
Municipalities	9,457	11,167	12,315
Unincorporated Towns and Villages (1891 and 1901) and "Localities," not otherwise defined (1911), of 500 Inhabitants and upwards	1,171	3,623	14,750
Total, Quasi-urban	10,628	14,790	27,065
Remainder of Division (Rural) ...	25,558	31,418	30,941
Total, Division ...	36,186	46,208	58,006

The results of the foregoing table are disturbing. The growth of the old-established boroughs and municipal districts has been slow, in individual instances there has been retrogression, and though the growth of the unincorporated towns and villages for the first decade cannot be considered as by any means extreme, for the second decade the growth of "Localities," also unincorporated and otherwise undefined, has been amazingly rapid, while the rural population in the same interval of time has exhibited a slight decline, and not, as might reasonably have been expected under the incidence and conditions of settlement, a satisfactory increase.

A reference, however, to the census of occupations for 1901 shows that the Division, during the decade ending 1911, received no fewer than 4,028 additional primary producers, and that the apparent decrease of the rural population based on the census of "Localities" not otherwise defined, must be due entirely to over-statement and looseness in defining the locational boundaries of residence, the position of a post-office being taken as the central point of the district which it served within any available radius.

At the census of 1911 the breadwinners of the Division of the Riverina numbered 27,870 persons of both sexes, of which total 16,201 were classed as primary producers, while the industrial class comprised 4,256 persons, the domestic 2,693, the commercial 2,127, the professional 1,281, and the transport and communication 1,089. The sub-order of agriculturists numbered 9,963, and that of the followers of pastoral pursuits 5,139—each of these sub-orders being greater in number than any class other than that of primary producers, the agriculturists were more than double the number of the industrial, and the pastoralists outnumbered it by 883 persons.

Of the 1,038 persons classed as "Other" primary producers, including one woman, 461 were engaged in forestry, 305 in the conservation and supply of water, 248 in hunting and trapping, and 24 in the industry of fishing. In transport and communication, 400 persons were engaged in traffic on railways, 399 in traffic on roads, and 16 only in traffic on waterways. In the industrial class 262 persons were engaged as workers in foods, &c., and 1,194 in building and construction, including the construction of railways.

The following table presents the population of the Division according to the occupations of the people for the census year of 1911:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	24,428	9,730	5,050	61	1,037	15,887	3,916	1,870	1,052	821	709	173	8,541
Females ..	3,442	224	89	...	1	314	340	257	37	460	1,984	50	3,128
Total ..	27,870	9,963	5,139	61	1,038	16,201	4,256	2,127	1,089	1,281	2,693	223	11,669

There were throughout the Division 27,870 breadwinners of both sexes, with whom were domiciled 29,765 dependents on natural guardians, and 1,984 females engaged in service and attendance, the proportion of dependents to bread-winners being as 1.06 to 1, and the domestics forming

7.1 per cent. of the total number of breadwinners. Of the 27,870 breadwinners, 16,201 were primary producers, and on a proportionate allotment of dependents, 17,173 would be domiciled with primary producers at the time of the census, and on a proportionate allotment of 7.1 per cent. of the total number of breadwinners, the number of female domestics engaged in service and attendance would be 1,150, similarly domiciled with primary producers, or a total number of primary producers, their dependents and domestics domiciled therewith, of 34,524 persons, or 3,583 in excess of the rural population as based on the census of "Localities" not otherwise defined, for 1911.

The actual number of persons living in the country would, however, necessarily be higher than the primary producers, their families and domestic servants taken together, because no allowance is made for persons engaged in industrial and commercial pursuits in the country, nor of teamsters, carters, etc., nor of professional persons, such as schoolmasters, travelling clergymen, and others. It is certain that the over-statement of residence is higher than 13.7 per cent., the proportional over-statement with regard to the population of municipal areas of an ascertained number of inhabitants.

Taking one county of the Division only, that of Urana, the decrease of population for the decade 1901-1911, based on the "Localities" census for the latter year, was apparently as much as 778, notwithstanding the fact that the primary producers, according to the census figures of 1901, numbered 1,229 persons of both sexes, and according to similar figures for 1911, they numbered 1,755, or an increase for the ten years of 526. The rural population of the county of Denison appears to have lost as many as 2,360 persons during the ten years 1901-1911, if reliance were to be placed on the census of "Localities" for the latter year, but the census of occupations for 1901 gave the total number of primary producers in the county of Denison as 1,319, and that for 1911 gave the number as 1,271, or a decrease of merely 48 persons.

Among other counties of the Division that of Nicholson showed a satisfactorily proportionate comparison of urban and rural elements. For the last decade of the period under review the whole of the county of Nicholson suffered a loss of 357 inhabitants. According to the table of municipal and non-municipal urban and rural elements the loss was thus divided:—urban 199, rural 158. The census of occupations for 1901 recorded the number of primary producers in the county as 362, and that for 1911 recorded it as 323, or a total loss of primary producers of 39. Primary producers numbering 323, with dependents and domestics calculated on the basis already detailed, would represent a rural population for the county of Nicholson of 798, and the municipal and non-municipal urban and rural table recorded it as 817, or an excess of 19 persons.

With respect to other counties, however, the results are not so satisfactory. In connection with dependents upon guardians, the usual divergence between census and police returns has to be recorded. According to the census of 1911 there were throughout the Division of the Riverina 224 females engaged in agriculture and 89 in pastoral pursuits, or a total of 313 females engaged in these two branches of primary production, and the police returns dated the 31st March, 1911, enumerated 960 females engaged in agriculture and 714 in dairying, or a total of 1,674 engaged in these two branches of primary production, hence the census recorded 736 females partly engaged in agriculture, and 625 partly engaged in dairying, or a total of 1,361 females partly engaged in these two branches of primary production and partly engaged in the discharge of domestic duties as dependents on natural guardians.

The constitution of the population of the Division according to the occupations of the people, and showing the relation of primary producers to the other classes of breadwinners, at the census of 1911, is submitted in the subjoined statement :—

Class—Primary Producers	...	...	...	...	16,201
„ Industrial	...	...	...	...	4,256
„ Domestic	...	...	...	...	2,693
„ Commercial	...	...	...	...	2,127
„ Professional	...	...	...	...	1,281
„ Transport and Communication	...	...	...	...	1,089
„ Independents	...	...	...	...	223
Total	...	...	...	...	27,870

For the purpose of the administration of the Local Government Acts, the Division of the Riverina has been subdivided into the following nineteen shires, or portions of shires, which, with their headquarters, are shown herewith :—

Shire.	Headquarters.	Shire.	Headquarters.
Lachlan ...	... Condobolin.	Windouran ...	... Deniliquin.
Carrathool ...	... Carrathool.	Murray ...	... Mathoura.
Bland ...	... West Wyalong.	Conargo ...	... Deniliquin.
Waradgery ...	... Hay.	Wunnamurra ...	... Jerilderie.
Murrumbidgee ...	... Darlington Point (Waddi).	Berrigan ...	... Berrigan.
Yanko ...	... Narrandera.	Urana ...	... Urana.
Coolamon ...	... Coolamon.	Coreen ...	... Corowa.
Mitchell ...	... Wagga Wagga.	Lockhart ...	... Lockhart.
Wakool ...	... Moulamein.	Culcairn ...	... Culcairn.
		Hume ...	... Jindera.

The Division includes a south-western portion of the shire of Lachlan, bounded by the river of the same name (approximately from the 147th to the 146th meridian of east longitude), bounded on the east by the Coobothery Range and its continuation southward in low-lying hills, which constitute also the eastern boundary of the county of Dowling. The river Lachlan constitutes also the western limit of the shires of Carrathool and Waradgery, and after the Lachlan's junction with the Murrumbidgee, the latter constitutes the western limit of the shire of Wakool to Balranald, thence Wakool Shire is bounded by a surveyed line running southward to the Edwards River, which encloses it till it junctions with the river Murray.

The Murray forms the southern boundaries of the shires of Wakool, Murray, Berrigan, Coreen, and Hume. The eastern boundary of the Division is less regular. It runs approximately southward, somewhat to the west of the 147th meridian of east longitude, through the shire of Lachlan, following the mountainous boundary of the Division to a point south-east of Yalgogrin, thence by the south-westerly and southerly boundary of the county of Bourke, which passes through the eastern fringe of the shire of Bland and the western section of the shire of Narraburra, between the municipal township of Temora and the village of Quandary, skirting the shire of Coolamon, bisecting the shire of Mitchell, incorporating into the Division the larger and western sections of the shires of Lockhart, Culcairn, and Hume, and completing the circuit on the Murray River, somewhat to the westward of Albury, in the Division of the South-Western Slope.

The headquarters of the shire of Lachlan are at Condobolin, a municipal district in the Central Plain, those of the shire of Bland are at West Wyalong, an unincorporated goldfield township, and situated also in the Division of the Central Plain, those of the shire (as distinct from the county) of Mitchell

are at the proclaimed borough of Wagga Wagga, in the Division of the South-Western Slope, and those of the shire of Hume at the unincorporated township of Jindera, also in the Division of the South-Western Slope. The headquarters of the remaining shires fall within the boundaries of the Division of the Riverina.

In some cases there is repetition of the names of shire-centres in subsequently constituted shires. Among these are Carrathool, Coolamon, Berrigan, Urana, Lockhart, and Culcairn—all of them unincorporated townships, situated, in the order named, in the counties of Sturt, Bourke, Denison, Urana (Urana and Lockhart, headquarters), and Hume. The municipal district of Deniliquin was the headquarters of the two adjacent shires of Windouran and Conargo. The municipal district of Hay was the headquarters of the shire of Waradgery. The proclaimed borough of Narrandera was the headquarters of the shire of Yanko. The municipal district of Corowa was the headquarters of the shire of Coreen, and the municipal district of Jerilderie was the headquarters of the shire of Wunnamurra. The three remaining shires had for headquarters the unincorporated townships of Darlington Point, or Waddi, on the Murrumbidgee River, the shire-centre of Murrumbidgee Shire, Moulamein, a village on the Kyalite or Edwards River, the administrative headquarters of Wakool Shire, and Mathoura, a village situated on feeders of the rivers Murray and Edwards, the administrative centre of the shire of Murray.

THE WESTERN DIVISION.

The Western Division is a vast plain stretching westward from the water-courses of the Barwon, the Bogan, and the Lachlan Rivers, and bounded on the west by the eastern boundary of the State of South Australia, delimited on the north by the southern boundary of the State of Queensland, and on the south by the river Murray, which separates it from the State of Victoria.

The Western Division is divided diagonally by the river Darling, from the junction of the Barwon and the Bogan Rivers in the north-west, to its debouchment into the river Murray at Wentworth; but from the township of Mungindi, on the Queensland border, to the junction of the streams that unite to form the Darling, the eastern boundary of the Division consists of the rivers Macintyre and Barwon, and the counties thus bounded by them are included in the trans-Darling territory. Disregarding the subdivisions of the county of Caira (which has been included in the Division of the Riverina) and of the counties of Canbelego, Clyde and Gregory (which have been included in the Division of the Central Plain), the Division now under review consists of forty-three counties, which, for convenience of comparison and reference, are usually grouped into those east of the Darling and those west of the Darling.

Counties East of the Darling.

The entire Western Division covers an area of 121,548 square miles, but the counties east of the river Darling are comprised in an area of 51,128 square miles. The counties under notice are eighteen in number, and in their geographical order, reading from east to west, and from north to south, are as follow:—Cowper, Yanda, Rankin, Robinson, Booroondarra, Werunda, Woore, Mouramba, Livingstone, Perry, Manara, Mossgiel, Blaxland, Waljeers, Franklin, Wentworth, Taila, and Kilfera. A portion of the county of Wentworth lies on the western bank of the river Darling, but for the convenience of comparison the county's entire area has been included in the subdivision.

The following table exhibits the counties of the Western Division east of the Darling in the order of priority of population at the last census, and

gives the population and the density per square mile for the three census periods of 1891, 1901, and 1911 :—

County.	Area in square miles.	Population.			Density of Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Robinson	2,193	1,781	5,447	8,366	0·81	2·48	3·81
Cowper	4,681	4,362	3,281	2,218	0·93	0·70	0·47
Wentworth	3,276	1,362	1,143	1,239	0·42	0·35	0·38
Mouramba	2,447	1,751	1,095	626	0·72	0·45	0·21
Blaxland	3,994	1,171	1,256	567	0·30	0·31	0·14
Waljeers	2,635	705	592	450	0·27	0·22	0·17
Taila	2,297	356	332	320	0·16	0·17	0·14
Perry	2,978	235	372	278	0·08	0·12	0·09
Yanda	2,838	516	392	271	0·18	0·14	0·09
Franklin	1,439	419	344	263	0·29	0·24	0·18
Mosgiel	3,886	693	318	225	0·18	0·08	0·06
Livingstone	3,872	458	270	220	0·12	0·07	0·05
Manara	3,959	245	248	193	0·06	0·06	0·05
Kilfera	1,618	141	159	148	0·09	0·10	0·09
Rankin	2,431	251	144	127	0·14	0·06	0·05
Booroondarra	2,066	247	148	103	0·12	0·07	0·05
Werunda	2,254	122	87	97	0·05	0·04	0·04
Woore	2,264	101	93	85	0·05	0·04	0·04
Total	51,128	14,916	15,771	15,796	0·29	0·31	0·31

The eastern section of the Western Division affords a good example of the difficulties encountered in obtaining a true statement of the urban and rural elements of any area in which the winning of mineral wealth is one of the chief energies of primary production. From the foregoing table it would appear that the subsection of the Western Division, east of the river Darling, had actually gained 880 persons during the twenty years under review, whereas the only part which gained in population was the county of Robinson, or more accurately the mining districts of Cobar and Canbelego, lying within that county and containing the municipal districts of Cobar and Wrightville (formerly Gladstone), and the unincorporated township of Canbelego, which is situated outside the county of the same name in the adjoining Division of the Central Plain. Similarly, the considerable decline of the population of the county of Mouramba, which lost 656 of its inhabitants during the decade 1891–1901, does not appear so severe a set-back to settlement, in view of the fact that the decrease was mainly local, and affected the copper-mining township of Nymagee to the extent of a reduction of 440 persons within its habitancy. The county of Robinson gained 6,585 persons during the twenty years under review, or 3,666 for the first and 2,919 for the second decade, and the density of population ranged from 0·81 persons per square mile in 1891 to 2·48 in 1901, and to 3·81 in 1911.

The position of the county of Robinson, as contrasted with that of the remainder of the eastern section of the Western Division, is clearly seen from the following figures :—

	Population.			Persons per square mile.		
	1891.	1901.	1911.	1891.	1901.	1911.
Robinson (County)	1,781	5,447	8,366	0·81	2·48	3·81
Remainder of Eastern Section of the Western Division ...	13,135	10,324	7,430	0·27	0·21	0·15
Total	14,916	15,771	15,796	0·29	0·31	0·31

The increase of population in the county of Robinson is by no means an urban increase, for it is due absolutely to the development of a branch of primary production which necessitates aggregate exploitation of a circumscribed and specialised area.

The county of Cowper, which contains the once flourishing outpost township and municipal district of Bourke, like its urban centre just named, lost nearly half its population during the twenty years under review, or 1,081 persons for the first and 1,063 for the second decade, from a total of 4,362 inhabitants in 1891, and the density of the county ranged from 0·93 in 1891 to 0·70 in 1901, and to 0·47 in 1911.

The county of Wentworth and its municipal township district of the same name have both declined during the twenty years 1891–1911, but while the municipal district lost throughout the period, the county slightly recovered in the course of the ten years 1901–1911. In 1891 the county of Wentworth was accredited with 1,362 inhabitants, and lost 123 during the twenty years 1891–1911, but though it lost 219 persons prior to the census of 1901 on the figures of 1891, it gained 96 persons prior to the census of 1911.

The county of Mouramba, which contained the copper-field township of Nymagee, declined greatly during the twenty years under review, partly from a fall in the market-price of the metal, and partly from increased cost of production owing to a precarious water-supply. In the year 1891 the county of Mouramba had a population of 1,751, which during the twenty years 1891–1911 declined by 1,125 persons, or by 656 for the first and 469 for the second decade, the density of persons per square mile ranging from 0·72 in 1891 to 0·45 in 1901, and to 0·21 in 1911.

Of the remainder of this section of the Western Division, the counties Blaxland, Taila, Perry, Manara and Kilfera experienced slight advances in populousness from 1891 to 1901, and then a decline, in many instances below the numerical population of 1891; the counties of Waljeers, Yanda, Franklin, Mossiel, Livingstone, Rankin, Booroondarra, and Woore declined in population consistently through the period; and the county of Werunda, after a slight diminution in populousness prior to the census of 1901 on the figures of 1891, made a correspondingly slight recovery prior to the census of 1911.

The following table shows the population of the municipalities in that part of the Western Division lying to the eastward of the Darling River, for the three census periods of 1891, 1901, and 1911 :—

Municipality.	County.	1891.	1901.	1911.
Cobar	Robinson	1,189	3,371	4,430
Bourke	Cowper and Gunterbooka ...	3,149	2,609	1,593
Wrightville (late Gladstone) ...	Robinson	—	1,171	1,568
Wentworth	Wentworth	801	642	558
Total, Municipalities ...		5,139	7,793	8,149

Cobar first appeared in a census enumeration in 1881 as a copper-field settlement with 1,859 inhabitants, a number which at the succeeding census of 1891 had decreased to 1,189. In the interval, Cobar had been proclaimed a municipal district on the 18th March, 1884. During the twenty years under review it had increased by 3,241 persons, or by 2,182 for the first and 1,059 for the second decade, the population density ranging from 0·05 persons per acre in 1891 to 0·15 in 1901, and to 0·20 in 1911, over an area of 22,048 acres, or somewhat over 34 square miles.

The municipal district of Bourke was proclaimed on the 3rd July, 1878. It is situated partly in the county of Cowper and partly in that of Gunderrbooka, on the western bank of the river Darling. In the census enumeration of 1891 the majority of the inhabitants, namely 2,981, was accredited to Cowper, and 168 were in Gunderrbooka. In the census enumeration of 1901, of a total population of 2,609, Cowper was accredited with 2,449, and Gunderrbooka with 160. Details of distribution are not available for the census of 1911, and the population of North Bourke is not given. Bourke first appeared in a census enumeration in 1871 with 397 inhabitants, which as a municipal district increased to 1,378 at the census of 1881, and to 3,149 at the census of 1891. During the twenty years under review this outpost township has suffered a loss of 1,556 of its inhabitants, or of 540 for the first and 1,016 for the second decade, the density of persons per acre ranging from 0·11 in 1891 to 0·09 in 1901, and to 0·05 in 1911, over an area of 28,160 acres, or 44 square miles.

Wrightville appeared first in a census enumeration in 1901, under the name of Gladstone, with 1,171 inhabitants, a number which during the ten years 1901–1911 had increased by 397 persons, the density of persons per acre ranging from 0·21 in 1901 to 0·28 in 1911, over an area of 5,600 acres, or 8½ square miles. Wentworth, in the county of the same name, was proclaimed a municipal district on the 23rd January, 1879 but it had appeared in a census enumeration long before that date. In 1861 its population numbered 222 persons, in 1871 it had doubled the number, the population then being 445, in 1881 it was recorded as 752, and in 1891 as 801. During the twenty years under review Wentworth had lost 243 inhabitants, or 159 for the first and 84 for the second decade, the density of persons per acre ranging from 0·04 in 1891 to 0·03 in 1901 and 1911, over an area of 21,939 acres, or somewhat over 34½ square miles.

The following table shows the population of the unincorporated towns and villages (1891 and 1901), and the "Localities" not otherwise defined (1911), in that part of the Western Division lying to the eastward of the Darling River, inclusive of any centre reaching the urban standard in any of the individual census periods of 1891, 1901, and 1911:—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Canbelego	Robinson ...	—	179	—	...	1,671
Nymagee	Mouramba ...	...	..	1,321	881	Under 500. 379
Total, over 500 Inhabitants ... ..		...	...	1,321	881	1,671

The unincorporated township and mining field of Canbelego, though just outside the boundary of the county of the same name in the adjoining Division of the Central Plain, is situated in the important copper-mining county of Robinson. It first appeared in a census enumeration in 1901 with 179 inhabitants, which had increased, according to the census of "Localities" not otherwise defined, to 1,671 in 1911. The unincorporated township and mining field of Nymagee first appeared in a census enumeration in 1891 with a population of 1,321. During the twenty years under review its habitancy declined by 942 persons, or by 440 for the first and 502 for the second decade, while its population in 1911 was below the urban standard of 500 inhabitants.

The following table shows the municipal and non-municipal urban and rural elements of the population of the counties of the Western Division, lying to the eastward of the Darling River, for the census periods of 1891, 1901, and 1911 :—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Robinson	Municipal	1,189	...	4,542	...	5,998	...
	Non-municipal	—	...	—	...	1,671	...
	Total	1,189	592	4,542	905	7,669	697
Cowper	Municipal	3,149	1,213	2,609	672	1,593	625
Wentworth	„	801	561	642	501	558	681
Mouramba	Non-municipal	1,321	430	881	214	—	626
Remainder of) Eastern Section) of the Division )	... ..	—	5,660	—	4,805	—	3,347
Grand Total		6,460	8,456	8,674	7,097	9,820	5,976

The urban element in the county of Robinson is represented by the municipal districts of Cobar and Wrightville (late Gladstone) and the unincorporated township of Canbelego, all of which have little claim to an urban status, as the bulk of the population is engaged in primary production, and the places are little more than mineral fields.

Cobar is the centre of a district marvellously rich in copper, gold, silver, lead and other minerals. The township is provided with all the requirements of a provincial population, and is connected with the Great Western Trunk line from Sydney to Bourke by a branch from Nyngan. It has general stores, the shops of tradespeople, hotels, banks, a pastoral and agricultural association, mining companies' headquarters, steam saw-mills, two newspapers, soap and cordial factories, small debts and warden's courts, a land board, a hospital, schools, and all the necessary machinery for administration, public service and social convenience; but the bulk of the male population is engaged in winning the various metals for which the district is renowned, and there has been a great stimulus to the exploitation of copper-ore since the outbreak of the great war.

Wrightville, though a municipal district, is greatly circumscribed in its capacity for public service, possessing only two or three general stores, four hotels, and a few small shops. Canbelego is a typical out-west mining township, with the stores, hotels and other primitive necessities of social convenience of a goldfields settlement.

The urban element in the county of Cowper is represented by the municipal district of Bourke, situated on the Darling River just below its junction with the Bogan. It is, in its history, a continuation of the Fort Bourke, a frontier block-house, built by the explorer and Surveyor-General, Sir Thomas Livingstone Mitchell, against the sporadic outbreaks of the aborigines, subsequent to the murder of his botanist Richard Cunningham,

by the blacks of the Bogan. Bourke was long the great sheep entrainment *dépôt* of the West, and for years before the advent of the railway it was the place of exchange for pastoral business involving the interests of a large area of hinterland in every direction, and extending far northward into the neighbouring territory of Queensland.

A river-centre of a great sheep and cattle terrain, especially of the former, and a port for water-carried wool, Bourke was specially subject to the visitations of destructive floods; but, anomalous as it may appear, it was more frequently a victim and a sufferer from no less destructive droughts. From this, as at least one of the contributing causes, its prosperity has largely departed, notwithstanding the discovered metalliferous richness of the southern part of the district in copper and other minerals. Bourke is in the position at present of similar prosperous centres of a past epoch, the development of which has been arrested by a different method of progress and a new objective of attainment. It is burdened with civic services and social conveniences which have persisted beyond their period of usefulness. With the dwindling population of a riverside township it has the administrative machinery of a city. North Bourke, a small township on the western side of the Darling, may eventually outstrip the parent settlement in population and prosperity.

The urban element in the county of Wentworth is represented by the riverside township and municipal district of the same name, which stands at the junction of the two great waterways of the Murray and the Darling Rivers. The place was named in honour of the late William Charles Wentworth, the framer of the Constitution of New South Wales, and it was once seriously proposed that, in the event of a Federation of the Colonies, it should become the Capital of Federal Australia. Wentworth, however, never realised this dream of greatness, and like Bourke it is a place with a past, and with small promise of a future.

At the junction of Australia's two greatest rivers it occupies a peculiar and exceptionally advantageous position, and constitutes an unrivalled terminus for all the Interstate railways of the future. As the Darling is often unnavigable, Wentworth has been obliged to act as a *dépôt* of supplies to the surrounding country, a position which would be greatly enhanced by a system of railway communication with Sydney, Melbourne and Adelaide. In such a case Wentworth might well look forward to distinction as the Commonwealth's central city. At present it is not merely stagnating, but receding, and its population showed a large proportional decrease at each successive census under review. Its administrative, social and commercial equipment is now in excess of its needs.

The urban element in the county of Mouramba is represented by the unincorporated township of Nymagee, a mining township which rose to prosperity in 1891 as the centre of a metalliferous district surrounded by the copper-workings of the Mouramba and Mount Boppy mines, the Gilgunnia goldfield and the Overflow silver-diggings. Nymagee brought to grass ore which yielded over 900 tons of copper during the year 1891, but owing to several causes, among them being difficult intercommunication, the various mines were closed down, and the population drifted to more progressive districts.

The whole of the eastern section of the Western Division, with the single exception of the county of Robinson, has suffered a decline in population during the twenty years under review—a decline which has affected the municipal districts, the unincorporated townships and the rural areas alike.

The following statement exhibits the constitution of the population in its municipal and unincorporated urban and in its rural elements at the census of 1911:—

Division.				1891.	1901.	1911.
Municipalities	...	...	...	5,139	7,793	8,149
Unincorporated Towns and Villages (1891 and 1901), and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	...	...	...	1,321	881	1,671
Total, Quasi-urban	...	...	...	6,460	8,674	9,820
Remainder of Eastern Section of the Division (Rural)	...	...	...	8,456	7,097	5,976
Total, Division	...	...	...	14,916	15,771	15,796

The population of the eastern section of the Western Division in 1911 was 15,796, of which number 7,691 persons of both sexes were enumerated as breadwinners. The primary producers numbered 4,309, persons classed as industrial 1,009, the domestics 899, the commercial class 616, those engaged in transport and communication 373, and the professional class 349. The sub-order of pastoralists was numerically greater than any class outside the primary producers, but each individual class of "Other Occupations" exceeded numerically the sub-order of agriculturists.

Of the primary producers, "Other" consisted of 82 persons, including one female, engaged in the conservation and supply of water, 30, including one female, engaged in forestry, 21 males engaged in fishing, and 13 males engaged in hunting and trapping. Persons engaged in the work of transport and communication included 125 engaged in traffic on railways, 120 engaged in traffic on roads, and 20 engaged in traffic on waterways. Persons classed as industrial included 77 persons engaged as workers in food, etc., and 18 engaged in building and construction, including the construction of railways.

The primary producers of the eastern section of the Western Division included 2,187 males and 2 females engaged in mining. These persons were dwellers in quasi-urban centres, but they cannot on that account be considered as constituting the habitancy of townships, an aspect of primary production which materially affects the urban claims of certain localities. The following statement exhibits the population of the eastern section of the Western Division, enumerated according to the occupations of the people in the year 1911, and showing the relation of primary producers to other occupations:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.					
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.
Males	6,665	250	1,709	2,187	144	4,290	980	528	362	204	238	113
Females	1,026	4	11	2	2	19	79	88	11	145	661	23
Total	7,691	254	1,720	2,189	146	4,309	1,009	616	373	349	899	136

The breadwinners numbered 7,691 persons of both sexes, and the dependents on natural guardians 8,019 persons of both sexes, or a proportion of the latter to the former of 1.04 to 1. Throughout the eastern section of the

Division there were employed 661 females as domestics, or a proportion of 8·6 per cent. of all breadwinners. On the basis of distribution hitherto adopted, the 4,309 primary producers above enumerated would be domiciled, at the time of the census, with 4,481 dependents on natural guardians, and 370 females engaged in domestic service and attendance, thus showing a total of primary producers, their dependents and domestics of 9,160, equivalent to a rural population, without any accretion from persons engaged in other occupations, the callings and the exigencies of employment of some of whom would necessitate a rural residence.

With regard to dependents on natural guardians, it is necessary to note that the census recorded 4 females engaged in agriculture and 11 in pastoral pursuits, or a total of 15 engaged in these two branches of primary production; and that the police returns to the 31st March, 1911, recorded 3 females engaged in agriculture and 60 in dairying, or a total of 63 engaged in these two branches of primal industry, hence the census included 48 females as dependents on natural guardians, who were partly engaged in primary production, and partly engaged in domestic duties.

The following statement shows the primary producers in relation to other classes of breadwinners, as at the census of 1911 :—

Class—Primary Producers	...	...	...	...	...	4,309
„ Industrial...	...	...	..	...	...	1,000
„ Domestic	...	...	...	...	...	893
„ Commercial	...	...	...	...	...	616
„ Transport and Communication	...	...	...	...	...	373
„ Professional	...	...	...	...	...	349
„ Independents	...	...	...	...	...	136
Total	...	..	...	...	...	7,691

The table given on a preceding page, showing the municipal and non-municipal urban and the rural elements of the population, based on census returns of towns and villages for the years 1891 and 1901, and of “Localities” not otherwise defined, for 1911, makes the rural element of the population only 5,976 for the year last mentioned, instead of 9,160, as based on primary producers, their dependents and domestics, as shown above. This result is due to the presence of a considerable mining population in the municipal districts of Cobar and Wrightville, and in the unincorporated township of Canbelego, all of which are situated in the county of Robinson, which may conveniently be considered separately. The following table exhibits this county as constituted in 1911 according to occupations :—

Sex.	Bread-winner.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	3,363	40	97	2,145	17	2,299	433	288	133	89	102	19	1,064
Females ..	481	..	2	2	..	4	54	56	1	70	289	7	477
Total ..	3,844	40	99	2,147	17	2,303	487	344	134	159	391	26	1,541

From the foregoing tables it will be seen that in the county of Robinson, at the time of the 1911 census, 2,147 persons were engaged in mining, and in the remaining fourteen counties of the eastern section of the Division 42 only. The proportion of dependents on natural guardians in the county of Robinson was as 1·17 to 1, and 7·5 per cent. of the total number of breadwinners were females engaged in domestic service and attendance. On the basis of distribution hitherto adopted, the rural population of the county of Robinson calculated from the number of primary producers in the county was:—Primary producers 2,303, dependents on primary producers 2,694, females engaged in domestic service and attendance domiciled with primary producers 172, total 5,169—or, 4,472 in excess of the rural population shown in the table on a preceding page giving the municipal and non-municipal urban and the rural elements of the population. In this we have a recurrence of the difficulty presented by the counties of Northumberland and Camden with respect to the urban and the rural elements in a region devoted predominantly to mining. A statement of the remaining seventeen counties of the Division in terms of the occupations of the people offers no such difficulty, as may be seen from the following table:—

Sex.	Breadwinner.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	3,302	210	1,612	42	127	1,991	497	240	229	115	136	94	1,311
Females ..	545	4	9	..	2	15	25	32	10	75	372	16	530
Total ..	3,847	214	1,621	42	129	2,006	522	272	239	190	508	110	1,841

Of the 3,847 breadwinners in this area of 48,935 square miles, the primary producers numbered 2,006, persons classed as industrial 522, the domestics 508, those engaged in commercial pursuits 272, in transport and communication 239, and in professional work 190. The sub-order of pastoralists, with a representation of 1,621 persons (including 9 females) was predominant, and the primary producers exceeded the total of all the other classes by 165 persons. The proportion of the female domestics to breadwinners of both sexes was as high as 9·6 per cent., and the proportion of dependents on natural guardians as low as 0·91 to 1 of breadwinners of both sexes. On the basis of distribution hitherto adopted, the 2,006 primary producers would have 1,825 dependents, and 192 females engaged in domestic service and attendance domiciled with them, together making a total rural population, exclusive of the county of Robinson, of 4,023 persons, irrespective of any proportionate number from other occupations, the incidence of whose work necessitated rural domicile. The urban and rural table already referred to gives the rural population of the eastern section of the Division, ex the county of Robinson, as 5,279, or an excess of 1,256 persons over the rural population, ex the county of Robinson, based on the primary producers—an excess which is equivalent to over 31 per cent. of the "Other Occupations" necessary to render primary production effective.

Counties West of the Darling.

The following table exhibits the counties of the Western Division west of the Darling and its tributaries, the Barwon and the Macintyre, in the order of priority of population at the last census, and gives the population and the density of persons per square mile, for the three census periods of 1891, 1901, and 1911:—

County.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Yancowinna	2,636	24,438	28,887	32,078	9·27	10·96	12·17
Finch	4,226	1,059	1,197	2,992	0·25	0·28	0·49
Narran	3,688	966	899	1,966	0·27	0·25	0·29
Young	2,575	1,631	1,267	850	0·63	0·49	0·33
Yungnulgra	3,130	396	1,901	785	0·13	0·61	0·25
Culgoa	2,539	622	386	422	0·24	0·15	0·17
Tongowoko	2,339	559	421	320	0·24	0·18	0·14
Gunderbooka	2,401	835	665	317	0·35	0·28	0·13
Windeyer	3,245	484	190	309	0·15	0·06	0·09
Irrara	4,271	470	470	303	0·11	0·11	0·07
Menindie	2,357	317	542	294	0·13	0·23	0·12
Farnell	2,921	481	188	277	0·16	0·06	0·09
Tara	3,005	343	266	259	0·11	0·09	0·08
Tandora	2,376	183	175	217	0·08	0·07	0·09
Yantara	2,915	181	142	201	0·06	0·05	0·07
Evelyn	3,902	516	322	189	0·13	0·08	0·05
Mootwingee	3,580	253	226	178	0·07	0·06	0·05
Killara	2,820	125	223	159	0·04	0·08	0·06
Landsborough	2,057	161	136	120	0·08	0·06	0·06
Ularara	2,693	440	320	115	0·16	0·12	0·04
Barrona	2,573	180	58	112	0·07	0·02	0·04
Poole	2,016	40	12	44	0·02	0·01	0·02
Thoulcanna	1,670	53	157	43	0·03	0·09	0·02
Belalah	2,290	66	65	39	0·03	0·03	0·02
Fitzgerald	2,215	256	186	27	0·11	0·09	0·01
Total	70,420	35,055	39,301	40,816	0·50	0·56	0·58

The western section of the Division, like the eastern, is a vast pastoral territory with rich mineral deposits within its boundaries, which creates difficulties in the work of comparison. The minerals found in the county of Yancowinna, and in a lesser degree in the county of Yungnulgra, separate these two sub-sections from the remaining terrain, consisting of twenty-three counties, which comprise the trans-Darling section of this extensive hinterland. The county of Yancowinna, which contains the municipal district of Broken Hill, the late municipal district of Silverton, and the one-time goldfield of Acacia Dam, had in 1891 a population of 24,438, which during the twenty years under review increased by 7,640 persons, or by 4,449 for the first and by 3,191 for the second decade, the density per square mile ranging from 9·27 in 1891 to 10·96 in 1901, and to 12·17 in 1911.

The county of Finch, which contains the unincorporated townships of Wallangulla (obviously a new designation for Lightning Ridge) and Collarendabri, had in 1891 a population of 1,059, which during the twenty years 1891-1911 increased by 1,033 persons, or by 138 for the first and by 895 by the second decade, the density per square mile ranging from 0·25 in 1891 to 0·28 in 1901, and to 0·49 in 1911.

The county of Narran had 966 inhabitants in 1891, a number which increased for the twenty-years' period by exactly one hundred, for though

there was a loss of 67 persons during the first there was a gain of 167 during the second decade, the density ranging from 0·27 in 1891 to 0·25 in 1901, and to 0·29 in 1911.

The county of Young, which contains the declining municipal district of Wilcannia, had in 1891 a population of 1,631, but lost during the succeeding twenty years 781 inhabitants, nearly half its one-time habitancy, at the rate of 364 for the first and 417 for the second decade, the density per square mile ranging from 0·63 in 1891 to 0·49 in 1901, and to 0·33 in 1911.

The county of Yungnulgra, which contains the unincorporated township and opal-field of White Cliffs, had 396 inhabitants in 1891, experienced during the first decade an increase in population of 1,505 persons, and during the second decade a decrease on the figures of 1901 of 1,116, its total gain for the twenty years under review being 389 persons, the density ranging from 0·13 in 1891 to 0·61 in 1901, and to 0·25 in 1911.

The remaining twenty counties of the trans-Darling section of the Western Division had in 1891 a combined population of 6,565, and during the twenty years under review it diminished by 2,620 persons, or by 1,415 for the first and 1,205 for the second decade, the density of persons per square mile ranging from 0·12 in 1891 to 0·09 in 1901, and to 0·07 in 1911.

Of the twenty-five counties comprising the trans-Darling section of the Western Division, Yancowinna, and Finch were continuously progressive, Yungnulgra, Killara, and Poole, after a decline during the second decade, showed a gain on the figures of 1891, Narran, Tandora, and Yantara declined during the first decade, but more than retrieved their position during the second, Irrara stagnated during the first and declined during the second decade, Culgoa, Windeyer, Farnell, and Barrona all declined during the first and recovered during the second decade, but not sufficiently to reach the population levels they held in 1891, Menindie and Thoulcanna showed an increase during the first decade, but the decrease which followed during the second placed them below their population levels of 1891, and Young, Tongowoko, Gunderbooka, Tara, Evelyn, Mootwingee, Landsborough, Ularara, Delalah, and Fitzgerald all declined in population from census to census. The population of many counties was, however, practically negligible in relation to that of the State, and their gains and losses were expressible in terms of tens and of units.

The following table shows the population of municipalities in that part of the Western Division to the westward of the Darling River for the three census periods of 1891, 1901, and 1911 :—

Municipality.	County.	1891.	1901.	1911.
Broken Hill	Yancowinna	19,789	27,500	30,972
Wilcannia	Young	1,287	935	670
*Silvertown	Yancowinna	1,397	286	...
Total, Municipalities		22,473	28,721	31,642

* Decorporated prior to the census of 1911.

Broken Hill, which was proclaimed a municipal district on the 22nd September, 1888, first appeared in a census enumeration in 1891 with 19,789 inhabitants, and during the twenty years under review it gained 11,183 persons to its population, or 7,711 for the first and 3,472 for the second decade, the density of persons per acre ranging from 1·19 in 1891 to 1·65 in 1901, and 1·86 in 1911, over an area of 16,640 acres, or 26 square miles.

Wilcannia first appeared in a census enumeration in 1871 with 264 inhabitants, which at the succeeding census of 1881 had increased to 1,424, followed by a decrease at the census of 1891 when the population was recorded as 1,287. During the twenty years under review Wilcannia suffered a loss in population of 617 persons, nearly half its habitancy, and 754 fewer than that recorded at the census of 1881. The decrease for the first decade amounted to 352 persons, and for the second to 265, the density of persons per acre ranging from 0·09 in 1891 to 0·07 in 1901, and to 0·05 in 1911, over an area of 13,440 acres, or 21 square miles. Wilcannia was proclaimed a municipal district on the 3rd February, 1883.

Silverton (originally known as Umberumberka) was proclaimed a municipal district on the 22nd October, 1886, and therefore antedated Broken Hill by nearly two years. It first appeared in a census enumeration, however, with Broken Hill, in 1891 when its recorded population was 1,397. It is now only 252, considerably lower than the accepted urban standard, the decrease for the twenty years under review amounting to 1,145. During the first decade Silverton suffered a loss of 1,111 inhabitants, and during the second a loss of only 34. Like the mining township of Hill End, which has been absorbed in Turon Shire, Silverton has been decorporated, and is now only an atom of the great Western Division by the automatic operation of the Local Government Act which came into force on the 1st January, 1907. At present it is mainly utilised by the Silverton Tramway Company.

The following table shows the population of the unincorporated towns and villages (1891 and 1901), and the "Localities" not otherwise defined (1911), in that part of the Western Division lying to the westward of the Darling River, inclusive of any centre reaching the urban standard in any of the individual census periods of 1891, 1901, and 1911 :—

Town, Village, or Locality.	County.	Under 500.		500 Inhabitants and upwards.		
		1891.	1901.	1891.	1901.	1911.
Wallangulla ...	Finch ...	—	—	—	—	623
White Cliffs ...	Yungnulgra ...	—	...	—	1,550	598
Collarendabri ...	{ Finch, Benarba and Denham ... }	127	257	...	...	551
Acacia Dam... ..	Yancowinna ...	...	—	563	—	...
						1,772
						Under 500.
*Silverton	Yancowinna ...	...	...	..	...	252
Total, over 500 Inhabitants ...				563	1,550	1,772

* Proclaimed a municipal district, 22nd October, 1886, decorporated in 1907.

Wallangulla, recorded as a "Locality" not otherwise defined at the census of 1911, had a place on the largest maps charted by the Lands Department of New South Wales, but it is not on the list of the State's post offices, and is obviously identical with Lightning Ridge, the better-known designation of a settlement in a district productive of precious opal. Though Lightning Ridge has a post office, it is not mentioned at all in the census of "Localities" for 1911.

White Cliffs was first mentioned in the census enumeration of 1901, when it was accredited with 1,550 inhabitants, who had been attracted thither by the newly-developing industry of opal-winning. Australian precious opal has

earned a world-wide celebrity, and White Cliffs is the centre of a district in which the finest gems were at one time procured. During the decade 1901-1911, the population of White Cliffs declined, however, by 952 persons.

Collarendabri first appeared in a census enumeration in 1891 with a population of 127, but during the twenty years under review it gained 424 persons in addition, or 130 for the first and 294 for the second decade. It was for many years a well-known pastoral centre on the eastern edge of the great Western Division, but it did not achieve urban status until 1911, with 551 inhabitants.

Acacia Dam, in the County of Yancowinna, appeared once only in a census enumeration, in that namely of 1891, when it was accredited with a mining population of 563 persons. Silverton, as already noted, is now a railway and tramway terminus, with a population under the urban standard.

The following table shows the municipal and non-municipal urban and the rural elements of the population of the counties of the Western Division lying to the westward of the Darling River, for the census periods of 1891, 1901, and 1911 :—

County.	Incorporated and Unincorporated.	1891.		1901.		1911.	
		Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
Yancowinna ...	Municipal ...	21,186	...	27,786	...	30,972	...
„	Non-municipal ...	563	...	—	...	—	...
	Total ...	21,749	2,689	27,786	1,101	30,972	1,106
Finch ...	Non-municipal ...	—	1,059	—	1,197	1,174	918
Young ...	Municipal ...	1,287	344	935	332	670	180
Yungnulgra ...	Non-municipal ...	—	396	1,550	351	598	187
Remainder of Western Section of the Division.	... ..	—	7,531	—	6,049	—	5,011
	Grand Total ...	23,036	12,019	30,271	9,030	33,414	7,402

The urban element in the county of Yancowinna was represented by the municipal district of Broken Hill, the municipal district of Silverton (in 1891 and 1901), and the mining-field of Acacia Dam (in 1891). Broken Hill is the only one of these centres deserving of comment. A proclaimed “city,” it holds the third place in urban rank among the great aggregations of people in this State, but like Newcastle it partakes much more of the mining-field than of the city. Its very existence depends on the profitable exploitation of hidden mineral wealth, the securing of which is the special function of the primary producer. Its essentially urban population would, therefore, be represented by the number of persons remaining after a deduction had been made of primary producers, their dependents and domestics. This course is, unfortunately, not possible with regard to a municipality, and can be applied only to a county.

“The Barrier City,” as Broken Hill, or Willyama, has been designated; is the outcome of a series of discoveries of silver-ore in the region of the Barrier Ranges, which were discovered by the explorer, Captain Charles Sturt, during his great inland expedition in the year 1844. In 1876 silver-lead ore was found at Thackaringa, and a number of miners were attracted to the place. Thackaringa grew from a geographical location to a township in a mining-field, and in 1882 it contained between 200 and 300 people, the census of 1891 recording 257.

In 1883 Umberumberka was surveyed, and rapidly developed as a township centre of an argentiferous region under the name of Silverton, with hotels, general stores, shops, and all the rough and ready appliances of frontier mining life. In the month of September, 1883, while the mines around Umberumberka, or Silverton, were in the heyday of their prosperity, Charles Rasp, a boundary-rider on the Mount Gipps sheep-station, while mustering in the Broken Hill paddock near the new township of Silverton, had his attention challenged by the mineral appearance and geological formation of the "Hill."

The outcome of his observations was the creation of a company consisting of himself, the manager, another boundary-rider, two dam-sinkers, the overseer and the storekeeper of the Mount Gipps station, each of the seven contributing the sum of £70 towards a fund to begin operations for the exploitation of Broken Hill for its silver-ores. This was the beginning of its history, but there was a long period of waiting and much expenditure before these pioneers won any returns from their enterprise. Allotments at different times changed hands, for some of the original promoters were tired of paying calls, others failed in their resources, and new ground was pegged out on adjoining territory.

The township proper began to take shape in 1884, and two years later the Broken Hill silver-mines began steadily to rise in public estimation, while those of Silverton as steadily declined. On the 1st June, 1887, the first District Court was held in the township, and on the 16th September following a special train arrived there from Silverton with a party of Members of Parliament, and completed the last link in the chain of communication between Adelaide and Broken Hill. In 1887, and during the following year, many tin-workings were opened, for though the metal was known to exist it had not previously attracted much public attention, the principal mines now beginning operations being the Barrier, Bischof, Caloola, Mount Euriovie, Lady Don, Ruby, Victory, Mount Lake, and Dalcooth.

In 1888 a "boom" set in, and the wildest speculation was indulged in, silver-scrip changing hands with every hour, and fortunes were being made and lost in a day. But Broken Hill survived this financial crisis and continued its prosperous development, while Silverton pursued a path of correlative decline, the furniture of the Council Chamber and the fittings of its Town Hall being sold at public auction, its municipal library being dispersed, and the greater number of the houses carried bodily away and re-erected within the boundaries of its successful rival township. Drought, fire, water-famine, and over-speculation successively and severely tried the endurance of the residents of Broken Hill, and strikes added their quota to the general tale of difficult development. Some of these industrial upheavals have been accompanied by rioting and bloodshed.

Among the noted properties in the district are the Broken Hill Proprietary, Broken Hill South, the British, the Junction, and Block 10. The surrounding district is the principal silver-mining area in Australia, and the Proprietary is claimed to be the largest argentiferous mine in the world, not excepting even the celebrated Comstock, in the North American State of Nevada. Besides silver, the region is rich in lead, zinc, tin, and asbestos. As distinct from mining, among the industries of the City of Broken Hill, so proclaimed in the year 1907, in accordance with the provisions of the Local Government Act, are brick-making, saw-milling, iron-works, smelting, brewing, the manufacture of aerated waters, tailoring, dress-making, millinery, printing, and the generation of electric light and power.

Lightning Ridge (which appears as Wallangulla in the 1911 census of "Localities" not otherwise defined) and Collarenebri represent together

the urban element in the county of Finch, and both places are unincorporated townships. Lightning Ridge has the usual hotel, general stores and shops of tradespeople, refreshment-rooms, billiard saloons, blacksmiths' and wheelwrights' establishments, and the places of business of no fewer than five opal-buyers and one opal-cutter. It has also a monthly court, a post-office, a public school, a progress association, a licensed hall, and a Government savings bank. The population recorded for Wallungulla (or Lightning Ridge) in the census of "Localities" not otherwise defined, for 1911 was 623, but owing to the nature of the local industry upon which the township depends, namely—that of opal-winning, its habitancy must be of a fluctuating character.

Collareendabri (variously spelt by different Government Departments) is situated on the northern bank of the Barwon River, in the centre of a rich pastoral district. A branch railway line from Burren Junction connects, *via* Collareendabri East, a few miles from the parent township, with Narrabri and the north-western system which radiates from Newcastle. Collareendabri is connected by coach-routes with Walgett, Angledool, Mungulla, Mogil Mogil, Goondabluie, and Lightning Ridge. Besides a few hotels, a few stores, the shops of tradespeople, blacksmiths and wheelwrights' establishments, building firms, billiard saloons and other commercial conveniences, Collareendabri has a police magistrate's court, administrative and supervising Government machinery, a police station, a school of arts, a progress association, a post and telegraph office, a hospital, a pastoral and agricultural association, two banks, and a local jockey club.

Collareendabri is well equipped as an urban centre considering the magnitude of its population, but it has undoubtedly to provide for the commercial and social needs of the large district of which it is the centre. In the census of "Localities" not otherwise defined, for 1911, Collareendabri is stated to be situated in the three adjoining counties of Finch, Denham, and Benarba, but the census enumerations of 1891 and 1901 give this unincorporated township as being comprised entirely within the boundaries of the county of Finch.

The urban element in the county of Young is represented by the municipal district of Wilcannia, situated on the west bank of the river Darling. The township is on the main line of traffic from western Queensland, and was once an important halting-place on the principal travelling stock-routes, but the direct railway to Bourke has diverted much of Wilcannia's business, and it is now languishing, though the construction of the railway-line, from its present terminus at Condobolin westward to Wilcannia, may do much in reviving the ebbing fortunes of the latter. The surrounding district is occupied for grazing and mining purposes, and there are everywhere promising indications of copper, silver and lead, while excellent opals have been found, and gold has already been won in the vicinity of Mt. Browne (of which district Wilcannia is the commercial outlet), though scarcity of water and depth of hard-sinking have seriously retarded mining operations. Besides the administrative services, commercial facilities and social conveniences, with which Wilcannia is provided far beyond its present needs, it possesses a cordial factory, a wool-scouring establishment, a newspaper printery and building contractors' plants, and there are quarries within three miles of the town with an abundant supply of stone of superior quality. Wilcannia has racing, rowing and cricket clubs and the lodges of the principal friendly societies, and is the headquarters of the Pastoral Protection Association. Its stock returns include valuable herds of cattle and horses and large flocks of sheep, but it is doubtful if even extended railway communication can revive the district unless mineral discoveries induce the invasion of fresh population on a large scale.

The urban element in the county of Yungnulgra is represented by the unincorporated mining settlement of White Cliffs, which is situated near the source of the Wannara Creek, in the centre of the famous opal-field of the same name, about sixty miles north-west from Wilcannia, on the road to Mt. Browne and Milparinka. There have been opal-buyers resident on the field who represented not only Sydney and Melbourne, but European markets, and the value of the export of these gems prior to the War was considerably more than £30,000 for one year alone. The field had then extended to the "open country," and Block 13 Opal had been exploited 10 miles distant at the Bunker. Though confined commercially and socially to the barest primitive requirements, White Cliffs was furnished at the time of the last census with full administrative and Governmental supervisory officers, and besides hotels, general stores and the shops of artisan tradesmen, had a printing and publishing establishment, a cordial factory, timber-yards, a post and telegraph office, a convent-school, a hospital, racing, rifle and working-men's clubs, a progressive association and two halls. The significance of such an urban equipment, though in its most rudimentary stages, cannot be appreciated adequately by anyone living on the seaboard of the State, for the installation, in a far-distant outpost unconnected with the metropolis by rail, of even the simplest institutions of social amelioration and commercial convenience is a task of great magnitude.

With the exception of the county of Yancowinna, the increment of the population of which, in its urban and rural elements, is considerably inflected by the qualifying factor of primary production, the trans-Darling section of the Western Division is, in the main, highly unsatisfactory from the viewpoint of progressive development. The mining industry as a base of permanent settlement is illusory in the extreme, although its prospects are alluring, and its results frequently lead to extremely rash investments. Systematic irrigation, as far as such is available, and an extension of railway communication appear to be the only means by which the Western Division can be resuscitated. Insistence of drought conditions, lack of the means of communication, and the enormous distance from market centres in modern times, are objects insuperable to its continuous and prosperous development.

The following statement exhibits the constitution of the population in its municipal and unincorporated urban and in its rural elements at the census of 1911 :—

	1891.	1901.	1911.
Municipalities	22,473	28,721	31,642
Unincorporated Towns and Villages (1891 and 1901), and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	563	1,550	1,772
Total, Quasi-urban...	23,036	30,271	33,414
Remainder of Western Section of the Division (Rural)	12,019	9,030	7,402
Total, Division ...	35,055	39,301	40,816

The population of the western, or trans-Darling, section of the Western Division in 1911 was 40,816, of which number 19,662 persons of both sexes were enumerated as breadwinners. The primary producers numbered 11,632, persons classed as industrial 2,439, those engaged in commercial pursuits 1,986, the domestics 1,883, those performing professional work 840, and those engaged in transport and communication 751. The sub-order of pastoralists was numerically in excess of those engaged in industrial callings so-classed, and the total number of primary producers outnumbered all other occupations by 3,602 persons. Outside of primary producers, every individual Class listed in "Other Occupations" greatly exceeded the sub-order of the agriculturists.

Of the primary producers enumerated as a class, "Other" included 202 (two of which number were females) as persons engaged in water conservation and supply, 21 males engaged in hunting and trapping, 15 males engaged in forestry, and 5 engaged as fishermen. Persons engaged in the work of transport and communication included 208 persons engaged in traffic on railways, 367 engaged in traffic on roads, and 11 engaged in traffic on waterways. Persons classed as industrial included 549 engaged in building and construction, including the construction of railways, and 264 engaged as workers in food, etc. The primary producers of the western, or trans-Darling, section of the Western Division, like those of the eastern section, included a number of persons engaged in mining. These persons (totalling 8,544, one of which number was a female) were likewise dwellers in a quasi-urban centre, devoted in the main to a branch of primary production, and dependent for its existence thereon.

The following statement exhibits the population of the western, or trans-Darling, section of the Western Division enumerated according to the occupations of the people, in the year 1911, and showing the relation of primary producers to other occupations:—

Sex.	Bread-winners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Others.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	17,011	254	2,571	8,543	241	11,609	2,029	1,557	741	477	498	100	5,402
Females ..	2,651	6	14	1	2	23	410	429	10	363	1,385	31	2,628
Total ..	19,662	260	2,585	8,544	243	11,632	2,439	1,986	751	840	1,883	131	8,030

The breadwinners numbered 19,662 persons of both sexes, and the dependents on natural guardians 21,001 persons of both sexes, or a proportion of the latter to the former of 1.07 to 1. Throughout the western or trans-Darling section of the Division there were employed 1,385 females as domestics engaged in service or attendance, or a proportion of 7 per cent. of all breadwinners. On the basis of distribution hitherto adopted, the 11,632 primary producers above enumerated would be domiciled at the time of the census with 12,446 dependents on natural guardians, and with 814 females engaged in domestic service and attendance, thus showing a total of primary producers, their dependents and domestics, of 24,892, equivalent to a rural population of the western section of the Division without any addition from other classes of occupation, the callings and the exigencies of employment of some of which would necessitate a rural residence.

With regard to dependents on natural guardians, it is requisite to note that the census records 6 females engaged in agriculture and 14 in pastoral pursuits, or a total of 20 engaged in these branches of primary production, and that the police returns as at 31st March, 1911, record 6 females engaged in agriculture and 42 in dairying, or a total of 48 engaged in these two branches of primary industry, hence the census records 28 females as dependent on natural guardians who were partly engaged in pastoral pursuits (a branch of primary production), and partly engaged in domestic duties.

The following statement shows the Class Primary Producers in relation to other classes at the census of 1911 :—

Class—Primary Producers...	...	...	...	...	...	11,632
„ Industrial ...	...	...	...	...	...	2,439
„ Commercial ...	...	...	...	...	...	1,986
„ Domestic ...	...	...	...	...	...	1,883
„ Professional ...	...	...	...	...	...	840
„ Transport and Communication ...	...	...	...	...	...	751
„ Independents ...	...	...	...	...	...	131
Total ...	...	...	...	...	...	19,662

The table given on a preceding page, showing the municipal and non-municipal urban and the rural elements of the population, based on census returns of towns and villages for the years 1891 and 1901, and of “Localities” not otherwise defined, for 1911, makes the rural element of the population only 7,402 for the year last mentioned, instead of 24,892, as based on primary producers, their dependents and domestics, as shown above. This result, as previously pointed out, is due to the presence of a predominant mining population in the municipal district of Broken Hill, and to a lesser extent in the unincorporated opal-field of White Cliffs, the population of the latter only slightly, however, affecting the issue. The county of Yancowinna, in which the Broken Hill mines are situated, may therefore with advantage be considered separately. The following table exhibits this county as constituted in 1911 according to occupations :—

Sex.	Breadwinners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males ..	12,434	61	199	7,972	50	8,282	1,596	1,332	508	362	310	44	4,152
Females ..	2,172	2	2	..	2	6	398	404	4	300	1,039	21	2,166
Totals ..	14,606	63	201	7,972	52	8,288	1,994	1,736	512	662	1,349	65	6,318

From the foregoing table it will be seen that of 14,606 breadwinners in the county of Yancowinna at the time of the 1911 census, 7,972 were engaged in mining, so that in the remaining twenty-four counties of the western or trans-Darling section of the Western Division the number so employed was 572. The proportion of dependents on natural guardians in the county of Yancowinna was as 1·2 (nearly) to 1, and 7·1 per cent. of the total number of breadwinners were females engaged in domestic service and attendance. On the basis of distribution hitherto adopted, the rural population of the county of Yancowinna, calculated from the number of primary producers therein, was—Primary producers 8,288, dependents on primary producers 9,945, females engaged in domestic service and attendance domiciled with primary producers 588, total 18,821, or 17,715 in excess of the rural population shown in the table on a preceding page giving the municipal and non-municipal and the rural elements of the population.

This experience of the urban and rural elements of the population in the county of Yancowinna at the time of the last census further illustrates the

anomalous character of an intensely concentrated body of primary producers such as miners, and the difficulty of assigning them their correct aggregate status.

A statement of the remaining twenty-four counties of the western or trans-Darling section of the Division, in terms of the occupations of the people, is comparatively free from these anomalies of classification, as may be seen from the subjoined table. Of the 572 miners distributed throughout the western section of the Division, excluding the county of Yancowinna, 334 were engaged in the county of Finch at Lightning Ridge (Wallangulla), Three Mile, and Grawin winning precious opal, 181 were engaged similarly in the county of Yungnulgra at White Cliffs, where the ground is being worked out and recourse is had to fossicking, 28 were engaged in the quest for gold and other minerals in the county of Tongowoko, a far north-western district containing the goldfields of the Albert, Tibbooburra, and Nuggety Hill, 11 were engaged in the county of Evelyn in gold-mining in the vicinity of Milparinka and the Mount Browne Range, 5 in the county of Farnell at Poolamacca tin-getting, 4 in the county of Young, 3 in the county of Narran, 2 in the county of Menindie, and one in each of the counties of Fitzgerald, Mootwingee, Tandora, and Yantara. Most of the agriculturists were in the counties of Narran, Yancowinna, and Finch, and most of the pastoralists in the counties of Finch, Narran, Yancowinna, Culgoa, Irrara, Gunderbooka, Yantara, Windeyer, Mootwingee, and Tara.

Sex.	Breadwinners.	Primary Producers.					Other Occupations.						
		Agricultural.	Pastoral.	Mining.	Other.	Total.	Industrial.	Commercial.	Transport and Communication.	Professional.	Domestic.	Independents.	Total.
Males	4,577	193	2,372	571	191	3,327	433	225	233	115	188	56	1,250
Females	479	4	12	1	...	17	12	25	6	63	346	10	462
Total ..	5,056	197	2,384	572	191	3,344	445	250	239	178	534	66	1,712

Of the 5,056 breadwinners in this area of 67,784 square miles, the primary producers numbered 3,344, the domestics 534, those engaged in industrial pursuits so-classified 445, persons engaged in commerce 250, those engaged in transport and communication 239, and those performing professional duties 178. The sub-order of pastoralists, with a representation of 2,384 persons (including twelve females) was predominant, and the primary producers numbered nearly twice as many persons as all the other occupations taken together. The proportion of dependents on natural guardians was lower even than that of the eastern section of the Western Division—ex the county of Robinson, being for the western section—ex the county of Yancowinna, as 0·72 to 1, and the proportion of the females of the domestic class to the total number of breadwinners of both sexes was nearly 7 per cent.

On the basis of distribution hitherto adopted, the 3,344 primary producers would have 2,407 dependents and 234 females engaged in domestic service and attendance domiciled with them, together making a total rural population, exclusive of the county of Yancowinna, of 5,985 persons, irrespective of any proportionate number from other classes, the incidence of whose work necessitated rural domicile. The urban and rural table already referred to gives the rural population of the western or trans-Darling section of the Western Division, excluding the county of Yancowinna, as 6,296, or an excess of

311 persons, which is equivalent to nearly 5·2 per cent. of the "Other Occupations" required to render even the pastoral sub-order of primary production effective, and pastoral pursuits, particularly in that branch confined to sheep-breeding and wool-growing, employ the lowest proportion of labour of all forms of industry save of specialised labour in the shearing season.

SUMMARY—NEW SOUTH WALES.

The State of New South Wales contains 141 counties, which have been grouped in fifteen Divisions, or in five Territorial Areas, namely, the Coastal Belt, the Table-land, the Western Declivity, the Central Plains and Riverina, and the Western Plains. In addition to its characteristic shipping interest, due to its position as the western boundary of the South Pacific Ocean, the Coastal Belt is devoted to the needs of the State in the transactions of commerce, distribution and exchange, to manufacturing industries, to coal-mining and (in the south) gold-winning, and to saw-milling and dairy farming. The industries of the Tableland include mixed farming, sheep and cattle breeding, mining for gold, silver, tin, iron-ore and gems, and (in the centre) the manufacture of small-arms, iron and steel castings, and cement.

The Western Declivity has mines of gold, silver, and copper, but its leading industry is agricultural, though pastoral pursuits occupy the energies of a considerable proportion of the population. The Central Plains and Riverina contain a population almost equally divided between agriculture and pastoralism, but less prominent in mining than any other of the Divisions of the State. The vast extent of the Western Plains may be considered as wholly pastoral, but their silver, copper, and other mines, practically confined to two counties, occupy a greater number of persons than any of the other Divisions, with the exception of the Coastal Belt with its characteristic coalfields.

TERRITORIAL AREAS.

The following table shows the population of the State, at the three census dates of 1891, 1901 and 1911, in Territorial Areas and Divisions. An examination of the figures relating to density, or number of persons per square mile, reveals a general increase throughout New South Wales accompanied by local decreases, as, for instance, in the Divisions of the South Coast and the Southern Tableland. The South Coast gained during the interval 1891–1901, and lost during the succeeding decade, but its density in 1911 was higher than in 1891. The Southern Tableland also made a slight gain in the interval 1891–1901, and lost during the succeeding decade, so that its density in 1911 was lower than in 1891. The Western Plains show, in the counties east of the river Darling, a slight increase in populousness during the decade 1891–1901, and a state of stagnation during the decade 1901–1911, notwithstanding the mining activities of the copper fields. The pastoral industry has, moreover, steadily declined throughout the Division.

The subjoined table exhibits the population of New South Wales, together with the density per square mile, in Divisions and Territorial Areas, for the three census enumerations of 1891, 1901, and 1911. The aborigines have not been included. These in 1891 numbered 8,280; in 1901, 4,287; and in 1911, 2,012. In 1911 ten Aborigines were enumerated within the boundaries of the Federal Capital Territory, but they are not included in the population of that area given below.

Although the table includes, for the three periods under review, the population of Lord Howe Island, and the number of persons on board the ships and other craft in the ports and on the inland waterways of the State, the examination of the growth of settlement in New South Wales is based wholly

on the population within the defined boundaries of the fifteen Divisions and five Territorial Areas of the State, exclusive of the Federal Capital Territory, which occupies portions of the counties of Murray and Cowley, in the Southern Division of the Territorial Area of the Tableland.

Divisions.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
The Coastal Belt—							
North Coast	8,452	49,175	63,920	96,942	5·82	7·56	11·47
Hunter and Manning Rivers ..	16,236	136,114	155,694	191,915	8·43	9·59	11·82
Metropolitan	1,673	447,014	563,383	720,706	267·20	336·73	430·77
South Coast	8,569	69,738	72,745	70,718	8·14	8·49	8·25
Total	34,930	702,761	855,742	1,080,281	20·12	24·50	30·93
The Tableland—							
Northern	13,950	41,438	46,678	54,181	2·97	3·35	3·89
Central	14,945	59,815	101,186	111,259	6·39	7·20	7·92
Southern	12,365	49,618	51,139	47,618	4·01	4·14	3·85
Total	40,360	180,871	199,003	213,028	4·48	4·93	5·28
The Western Declivity—							
North Western Slope	15,335	31,663	43,419	58,844	2·06	2·18	3·84
Central Western	9,710	31,019	38,648	43,968	3·17	3·96	4·50
South-Western	12,791	55,646	66,298	77,140	4·35	5·18	6·03
Total	37,896	118,328	148,365	179,952	3·12	3·91	4·75
The Central Plains and Riverina—							
North-Central Plain	15,674	8,737	12,459	17,175	0·56	0·79	1·10
Central Plain	27,478	21,396	29,871	33,524	0·78	1·08	1·22
Riverina	32,481	36,186	46,208	58,906	1·11	1·42	1·79
Total	75,633	66,319	88,538	108,705	0·88	1·17	1·44
The Western Plains—							
East of the Darling	51,128	14,916	15,771	15,796	0·29	0·31	0·31
West	70,420	35,055	39,301	40,816	0·50	0·56	0·58
Total	121,548	49,971	55,072	56,612	0·41	0·45	0·47
Summary—							
The Coastal Belt	34,930	702,761	855,742	1,080,281	20·12	24·50	30·93
The Tableland	40,360	180,871	199,003	213,028	4·43	4·93	5·28
The Western Declivity	37,896	118,328	148,365	179,952	3·12	3·91	4·75
The Central Plains and Riverina	75,633	66,319	88,538	108,705	0·88	1·17	1·44
The Western Plains	121,548	49,971	55,072	56,612	0·41	0·45	0·47
Total	*310,367	1,118,230	1,346,720	1,638,578	3·60	4·34	5·28
Federal Capital Territory, (928)	5	55	100	105	11·00	20·00	21·00
Lord Howe Island	5	55	100	105	11·00	20·00	21·00
Shipping .. .. .	..	5,649	8,026	8,051	..	..	..
Total, New South Wales	310,372	1,123,954	1,354,846	1,648,448	3·60	4·34	5·31

*Includes the area of the Federal Capital Territory.

MUNICIPAL AREAS.

The General Report of the Eleventh Census of New South Wales (1891), commenting on the distribution of the population into urban and rural elements, stated that under the designation of the former term had been included all the municipalities, together with unincorporated towns containing 500 inhabitants and upwards, but adds with an amending criticism, "In some few cases the term town cannot be correctly applied to the municipalities comprising a group of dwellings—to which the appellation of village may not inaptly be given—surrounded by a sparsely-populated district in every sense rural." The assumption, however, that the population comprised in the rural portions of municipalities is not numerous, and that if it were deducted from the so-called urban total little difference would be made in a statement of the proportional urban and rural elements, is not borne out by a close examination of the extent of municipal areas and the number of persons per acre.

Under the Municipalities Act of 1867 it was provided that municipal districts might include any area not containing a borough, with a population of not less than 500 persons, and an area of not more than 50 square miles. Several municipal districts, formed before the Act was enforced, and some formed since that date, greatly exceed the standard limit of 50 square miles, among them being—

	Area in square miles.	Persons per acre.	Incorporated on—
Cudgegong	207 $\frac{5}{8}$	0·02	20th July, 1860.
Central Illawarra	118 $\frac{3}{8}$	0·07	19th August, 1859.
Campbelltown	101	0·03	21st January, 1882.
Wallendbeen	99	0·02	21st May, 1892.
Liverpool	67 $\frac{3}{16}$	0·09	27th June, 1872.
Jamberoo*	63 $\frac{1}{2}$	0·03	11th August, 1859.
Shellharbour	60 $\frac{1}{2}$	0·03	4th June, 1859.
St. Mary's	59	0·05	3rd March, 1890.

* Formerly known as Kiama.

North Illawarra, Central Illawarra, and Cudgegong are not only municipal but also agricultural districts, and they are purely district names. The official centre of North Illawarra is the enclosed municipality of Wollongong, of Central Illawarra the unincorporated township of Unanderra (which with Dapto constitutes its urban representation), and of Cudgegong the wholly enclosed municipality of Mudgee.

A considerable number of municipalities took full advantage of the provisions of the Act of 1867, and were incorporated with areas of 32,000 acres, or 50 square miles, among them being Deniliquin, Forbes, Hay, Hillston, Jerilderie, Moama (with 32,180 acres), and Wyalong. Of municipal areas containing over 30,000 acres, but less than the statutory 50 square miles, were Balranald and Castlereagh, and Tenterfield contained 29,440 acres.

Of municipalities ranging between 45 and 47 square miles in area, Condobolin contains 29,888 acres and Yass 28,800. Bourke and Ulladulla are both of 28,160 acres or 44 square miles in area, and Ulmarra contains 28,088 acres. Gerringong is 42 $\frac{3}{4}$, Silvertown 41 and South Shoalhaven 40 $\frac{1}{2}$ square miles in extent. The municipalities of Cudal and Glen Innes are 40 square miles in area, and Windsor lacks 64 acres of an area of 39 square miles.

Cobar is 72 acres short of an area of 34 $\frac{1}{2}$ square miles, while Wentworth contains 179 acres in excess of an area of 34 square miles, and Burrowa is exactly 34 square miles in extent. Berry contains 454 acres and Casino 380 acres in excess of an area of 33 square miles. The area of the municipality of Gulgong is 32 square miles. The area of Bankstown is 193 acres in excess of an area of 30 square miles.

Mulgoa and Walcha are both 29 $\frac{1}{2}$ square miles in extent, Peak Hill is 29 square miles in extent, Albury lacks 100 acres of the 29 square-miles-area, and Moss Vale is 28 $\frac{1}{2}$ square miles in extent. Cooma contains an area 64 acres in excess of 27 $\frac{1}{2}$ square miles. The area of the municipality of Broken Hill is 26 and of Brewarrina 25 square miles, that of Nowra 24 square miles and 192 acres, that of Smithfield and Fairfield 24 square miles, of Broughton Vale and Coonamble 23 $\frac{1}{2}$ square miles, of Molong 23 square miles, of Warren 128 acres short of 23 square miles, of Lismore 19 acres short of 22 square miles, of Wilcannia 21 square miles, of Richmond 20 square miles and 397 acres, of Moruya 19 square miles, of Inverell 16 square miles and 130 acres, and of Parkes 160 acres less than 16 square miles.

Density of Municipal Population.

Of 140 municipalities, exclusive of the cities of Sydney and Newcastle with their suburbs, no fewer than 56 were contained in areas exceeding 15 square miles. At the census of 1911 the density of population of the 56 municipal areas here detailed ranged from 0.01 (or 100 acres per person) to 1.86 (or nearly 2 acres per person), but only one instance, that of the municipality of Broken Hill, was recorded in this latter category. Of the municipalities exceeding an area of 15 square miles (Broken Hill excepted) the most densely populated was Lismore with a density of 0.52 (or 10 acres per person). Inverell came next with a density of 0.44 persons per acre. Then, in retrogressive order, Albury (0.34), Parkes (0.29), Cobar (0.20), Casino and Glen Innes (0.16), Coonamble (0.15), Smithfield and Fairfield, Richmond, Windsor and Forbes (0.14), Nowra (0.12), Bankstown and Cooma (0.11), Liverpool, Molong and Tenterfield (0.09), Deniliquin, Warren, Wyalong, Gulgong, Hay, Moruya and Moss Vale (0.08), Berry, Central Illawarra, Peak Hill, Walcha and Yass (0.07), Ulmarra (0.06), Bourke, Brewarrina, St. Mary's, Ulladulla and Wilcannia (0.05), Burrowa, Condobolin and Shellharbour (0.04), Campbelltown, Gerringong, Jamberoo, Moama, Mulgoa, South Shoalhaven and Wentworth (0.03), Barranald, Castlereagh, Cudal, Cudgegong, Hillston, Jerilderie and Wallendbeen (0.02), and Broughton Vale, and Silverton (0.01). As already noted, Silverton has, since the taking of the census of 1901, been disfranchised as a municipality, but its population density never exceeded 0.05, as at the census of 1891, at the census of 1901 it was 0.01. Of the 140 municipalities, only 34 had a population density of one person or more to the acre, and one only of these, namely Broken Hill, had an area exceeding 15 square miles.

In estimating the urban character of any given centre, population, area, and distribution of persons per acre must all be considered in co-ordination: Goulburn, for instance, with a population of 10,023 persons, distributed over an area of 8,320 acres or 13 square miles, being greatly more entitled to an urban classification than Taree, with a population of 1,205 persons distributed over 294 acres or less than half a square mile, though the density of population of the former was 1.20 persons per acre as against Taree's 4.10. Goulburn's area of 13 square miles was the largest of this municipal township group of the standard of one person and upwards per acre. Wagga Wagga had an area of a little more than 9 square miles, Rookwood (now Lidcombe) and Tamworth a little more than 8 square miles, Granville and Lithgow somewhat over 6 square miles each, Auburn, Dubbo, Bathurst, Grafton, and Gunnedah about 4 square miles, Armidale, Parramatta, and Wollongong about 3 square miles, Maclean, Murrurundi, and Quirindi about 2 square miles, Barraba, Manilla, Morpeth, Mudgee, Murwillumbah, Muswellbrook, Narromine, Orange, East Orange, Singleton, and Tumut from nearly 1 to $1\frac{3}{4}$ square miles, Carcoar about $\frac{3}{4}$ square mile, and Grenfell, Raymond Terrace, Taree, and Uralla from a little less to a little more than half a square mile.

Of this group of municipal townships considered with respect to density of persons per acre Orange is first (6.59), followed by Parramatta (5.73), Singleton (4.82), Taree (4.10), Mudgee (3.93), East Orange (3.65), Bathurst (3.35), Grenfell (3.31), Uralla (3.18), Murwillumbah (3.15), Wollongong (2.43), Raymond Terrace (2.37), Armidale (2.28), Auburn (2.07), Lithgow (1.95), Grafton (1.86), Granville (1.76), Dubbo (1.70), Narromine (1.68), Muswellbrook (1.66), Morpeth (1.60), Quirindi (1.50), Tamworth and Tumut (1.35), Barraba and Manilla (1.34), Murrurundi (1.32), Maclean (1.27), Carcoar (1.25), Goulburn (1.20), Gunnedah (1.13), Wagga Wagga (1.11), and Rookwood (1.01).

Area and Density.

The foregoing municipal townships comprise the two groups of greatest area and of greatest density of population. Of the first group, only Broken Hill had a density of more than one person per acre, and of the second group certain notable omissions are to be recorded, of which the most important is undoubtedly the two municipal townships of East Maitland and West Maitland. If their areas be taken together they represent over 22½ square miles, but neither combined nor separately have they a density of population constituting a typical urban centre or centres, and the compactness of the business and administrative sections of the two municipalities are obviously discounted by the larger portions of sparsely-occupied or widely-settled outskirts of the areas incorporated.

This is a characteristic of a great number of municipalities in the country districts, and particular attention has been called to it in previous publications dealing with the tabulated results of the census taken at former periods, the public being cautioned that many localities "cannot strictly be designated towns, but are essentially agricultural, pastoral or mining centres." This has been applied particularly to unincorporated localities, but with certain modifications it is no less applicable to many country municipalities.

INCREASE AND DECREASE OF MUNICIPAL POPULATION.

The municipal population of the State had increased during the twenty years under review by 363,806, or by 163,722 for the first and by 200,084 for the second decade; but the increase has been both sporadic and irregular, continuous though fluctuating in all the Territorial Areas, but very irregular in the Divisions, some of which have stagnated, and even suffered decline.

The municipal population of the Coastal Belt was 542,442 in 1891, and during the twenty years under review its gain amounted to 296,790, or 124,389 for the first and 172,401 for the second decade, as shown in the following summary of Divisions:—

Division.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
North Coast	5,080	9,821	14,901
Hunter and Manning Rivers ...	6,126	3,865	9,991
Metropolitan	110,430	157,824	268,254
South Coast	2,753	891	3,644
Total, Coastal Belt...	124,389	172,401	296,790

The great increase in the municipal population of the North Coast is due to a progressive agricultural settlement promoted by the construction of the littoral railway line, and by the unlocking of land to occupation. The new municipality of South Grafton increased the municipal population by nearly 1,000 at the census of 1891, and the total for that of 1911 was augmented by the new municipalities of Murwillumbah and Mullumbimby by over 3,000. The growth of the municipality of Lismore added nearly 1,500 inhabitants to the total of 1901 and over 3,000 to that of 1911, and other municipalities doubled, or nearly doubled, their populations during the second decade 1901-11.

The Division of the Hunter and Manning Rivers showed a much higher increase for the first than for the second decade, due largely to the rapid occupation of available coalfields for exploitation. The collieries in the immediate neighbourhood of the city of Newcastle have been worked for a great number of years and now evince signs of exhaustion, the coal-winners going farther afield towards Maitland, or delving eastward beneath the bed of the ocean.

The addition to the population of the Division by Newcastle and its suburban municipalities fell short of 4,000 for the first decade and of 2,000 for the second. West Maitland suffered a loss of population for the first decade, and East Maitland suffered a similar loss for the second, though the population of each municipality was higher in 1911 than in 1891, the first by 915 and the second by only 184. Some municipalities have practically stood still, and one (Gosford) dropped out during the second decade. The municipal population of the census year 1901 was increased by nearly 2,000 by the proclamation of Dungog and Aberdeen, the Division then containing twenty-seven incorporated areas, which, with the six exceptions of West Maitland, Murrurundi, Raymond Terrace, Greta, Lambton, and Plattsburg, all experienced increases in the number of their inhabitants, though none of any magnitude.

The increase in the Metropolitan Division, which includes the whole county of Cumberland, is divisible into the three parts due to the City of Sydney, to its suburbs, and to the extra-metropolitan municipalities within the county but outside the metropolitan area, as shown by the following figures:—

	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
City of Sydney	4,485	784	5,269
Municipal Suburbs	94,062	146,889	240,951
Extra-metropolitan } Municipalities }	11,883	10,151	22,034
Total, Metropolitan Division ..	110,430	157,824	268,254

The actual increase of the population of the metropolitan municipal suburbs during the second decade of the period under review was 137,431, but Ku-ring-gai Shire, with a population of 9,458, was taken in the census of 1911 as part of the metropolitan area, and thus augmented the increase to 146,889, as shown above. The great increase in the suburban population of Sydney is due primarily to the establishment of manufacturing industries, and secondly to the conversion of steam-tramways to a rapid electrical service. The growth of Sydney will be, however, the subject of another section.

The municipal population of the South Coast increased by only 3,614 persons during the twenty years under review, or by 2,753 persons during the first and by 891 during the second decade. This Division is gradually becoming depopulated, a condition of settlement which affects other old-established districts as an aftermath of the early land-policy and inconsiderate agrarian lavishness of Australia's first Governors.

Tenant-farming is foreign to the genius of those who till our soil, and wherever in the Commonwealth, as within the Dominion of New Zealand, it has been sought to found a territorial aristocracy, conditions similar to those prevailing in the Division of the South Coast have been the inevitable result.

During the first decade of the twenty-years' period under review, the municipalities of Bega, Bowral, Kiama, Jamberoo, Mittagong, Moruya, Gerringong, South Shoalhaven (represented in 1891 by the municipalities of Nunba and Central Shoalhaven) and Broughton Vale all suffered losses of population. During the second decade, Kiama, Jamberoo, Mittagong, Moruya, Gerringong, South Shoalhaven, and Broughton Vale continued to decline in population, and the list of depopulating municipalities in the Division of the South Coast was increased by the names of Nowra, Berry, Shellharbour, Ulladulla, Braidwood, and Picton—which had been proclaimed a borough only on the 14th March, 1895, preceding, and had at the census

of 1901 a population of 1,053, and at the census of 1911 a population of 954. The municipality of Bowral, which lost 506 of its inhabitants during the interval 1891-1901, was in a condition of stagnation—in 1901 its population numbered 1,752, in 1911 it numbered 1,751.

The municipal population of the Tableland was 62,213 in 1891, and during the twenty years under review its gain amounted to 20,072, or to 10,590 for the first and to 9,482 for the second decade, as shown in the following summary of Divisions :—

Division.		Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
Northern Tableland	... ..	3,947	3,103	7,050
Central	„	6,374	6,980	13,354
Southern	„	269	(—) 601	(—) 332
Total, Tableland	... ..	10,590	9,482	20,072

(—) Denotes decrease.

The great increase in the municipal population of this Division is due to the manufacturing advance of the Central Tableland, as will be seen presently. In the Northern Division the municipality of Hillgrove, which dates its existence from the 20th September, 1899, lost about 700 of its inhabitants during the decade 1901-11, the penalty of an urban existence based on the winning of the more precious metals. The remaining six municipalities all made regular and methodical increases, some numerically higher than others, but none of them phenomenal.

The municipal population of the Central Tableland increased during the twenty years under review by 13,354 persons, or by 6,374 for the first and by 6,980 for the second decade. The municipality of Bathurst stagnated for ten years, and declined in its total population during the succeeding ten. Orange did not advance materially, Mudgee stood practically still, its increase in population being only 500 in a period of twenty years, and its surrounding belt, the Cudgegong municipality, after a small addition during the first suffered a decline during the second decade, showing only an accretment of 159 persons for twenty years.

Blayney, after a small increment and a similar decline, gained less than 200 persons in the same period. Carcoar was practically at a standstill with respect to its habitation, and Hill End ceased its municipal existence, being absorbed in the shire of Turon. Lithgow, Wellington, Katoomba, Cowra, East Orange, and Gulgong all made advances in population, but Lithgow alone is accredited with a gain of 4,331 inhabitants during the twenty years under review, or of 1,403 during the first and 2,928 during the second decade, a result of the development of iron, coal, steel, and cement industries in the region of the Blue Mountains, and to the establishment of the Commonwealth Small Arms Factory.

The municipal population of the Southern Tableland, during the twenty years under review, suffered a loss of 332 inhabitants, for though it gained 269 during the interval 1891-1901, it lost 601 during the interval 1901-1911. The municipality of Goulburn lost nearly 900 persons during the twenty years, or 300 for the first and 600 for the second decade. Queanbeyan lost a few, and subsequently gained a few to its population, but its condition during the period 1891-1911 was practically stagnatory. Burrowa gained 124 persons in twenty years, and Bombala lost 274 during the same period. Yass gained 450 during the first decade and lost 84 during the second, thus showing a total gain for twenty years of 366, and Cooma's progressive increment amounted only to 334 during the same period.

The municipal population of the Western Declivity was 42,083 in 1891, and during the twenty years under review its gain amounted to 23,288, or to 11,428 for the first and to 11,860 for the second decade, as shown in the following summary of Divisions:—

Division.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
North-Western Slope	3,607	5,989	9,596
Central Western Slope	1,163	1,031	2,194
South-Western Slope	6,658	4,840	11,498
Total, Western Declivity...	11,428	11,860	23,288

There has been a very considerable increase in the municipal population of the Western Declivity, but it has been most noteworthy in the North-Western and the South-Western Slopes. In the former Division, Tamworth, Gunnedah, Narrabri, Quirindi and Bingara have all advanced in populousness. Warialda, proclaimed a municipal district on the 30th March, 1900, showed a decline in 1911 on the figures of the preceding census, but the new municipality of Manilla (proclaimed a municipal district on the 11th June, 1901) was accredited with a population of 1,390 at the last census.

The increase of population in the Central Division of the Western Declivity was for the twenty years under review only 2,194, or 1,163 for the first and 1,031 for the second decade. The municipality of Dubbo lost 1,146 for the first decade, and in 1911 was still more than 100 short of its recorded population for 1891, though it made a strenuous recovery. The remaining four municipalities of the Division made small increases, but the region subsists largely on its mining activities, and previous exploitation had practically exhausted the area of profitable working.

The increase of population in the Division of the South-Western Slope during the twenty years under review was 11,498, or 6,658 for the first and 4,840 for the second decade. Of the twelve municipalities comprising the Division two only, Gundagai and Wyalong, suffered a diminution in the number of their inhabitants, the advancement of habitancy in the remaining ten being regular and continuous. Temora first appeared as a municipality in 1901 with a population of 1,603.

The municipal population of the Central Plains and Riverina was 13,838 in 1891, and during the twenty years under review its gain amounted to 11,477, or to 8,413 for the first and to 3,064 for the second decade, as shown in the following summary of Divisions:—

Division.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
North Central Plain	1,832	762	2,594
Central Plain	4,871	1,154	6,025
Riverina	1,710	1,148	2,858
Total, Central Plains and } Riverina }	8,413	3,064	11,477

The municipality of Moree represents no inconsiderable addition to the municipal population of the Division of the North-Central Plain, and West Narrabri, which was proclaimed a municipal district on the 26th September, 1891, added to the population of the Division 677 persons in 1901 and 806 in 1911.

The Central Plain gained 6,025 persons to its municipal population during the twenty years under review, or 4,871 for the first and 1,154 for the second decade. In the census records for 1901 Peak Hill was a new municipal district (proclaimed on the 7th November, 1894), with a population of 1,107, Narromine, a new municipal district (proclaimed on the 22nd April, 1898), Warren, a new municipal district (proclaimed on the 23rd April, 1895), and Brewarrina, a new municipal district (proclaimed on the 12th January, 1901). These four newly incorporated townships added nearly 3,900 to the municipal population of the Division. Over the twenty years the municipality of Nyngan lost 155 of its inhabitants, after gaining exactly 100 in the decade 1891-1901. The municipalities of Coonamble and Condobolin made a regular increment to their habitancy.

The municipal population of the Riverina has not grown proportionately to the general population of the Division. In 1891 the municipal population was recorded as 9,457, its gain for the decade 1891-1901 was 1,710, and for the decade 1901-11 only 1,148, or for the twenty years under review 2,858, whereas the gain in population of the Division as a whole was for the twenty years 21,820, or 10,022 for the first and 11,798 for the second decade. Deniliquin gained 371 in the first decade and lost 150 in the second, Hay gained nearly 300 in the first decade and lost 551 in the second, Moama gained over 200 in the first decade and lost nearly 100 in the second, Jerilderie gained over 200 in the first decade and lost 26 in the second, and Hillston gained over 100 in the first decade and lost 200 in the second.

Of all the municipalities of the Riverina, Narrandera alone showed steadily progressive figures of population, although its progress was slow—440 for the first decade and 119 for the second, or 550 for the twenty years under review. Corowa, a newly-incorporated municipal district, proclaimed on the 13th June, 1903, swelled the municipal population of the Division by 2,063 inhabitants at the census of 1911.

The municipal population of the Western Division was 27,612 in 1891, and during the twenty years under review its gain amounted to 12,179, or to 8,902 for the first and 3,277 for the second decade, as shown in the following summary:—

Sections.	Increase. 1891-1901.	Increase. 1901-1911.	Increase. 1891-1911.
Plains East of the Darling ...	2,654	356	3,010
„ West „ „ ...	6,248	2,921	9,169
Total, Western Plains ...	8,902	3,277	12,179

Of the forty-three counties of the Western Division two only, highly mineralised, have made any great increase in municipal population, namely, the counties of Robinson and Yancowinna. In the former county are situated the great copper and gold fields of Cobar, Wrightville, Canbelego, and Mount Boppy; in the latter, the great silver-fields of Broken Hill and the surrounding country. As a huge terrain of 121,548 square miles, the Western Division is a pastoral area, saved from absolute depopulation only by the mineral wealth of a few of its counties, for in addition to Robinson and Yancowinna, the counties of Mouramba, Finch, and Yungnulgra are exploited for both copper and opal. The old-time municipalities of the pastoral era are decaying. Bourke, Wentworth, and Wilcannia are passing rapidly into the village stage, albeit they are fully equipped for all the conveniences and demands of provincial capitals.

The total population of the municipalities in the Divisions of New South Wales at the census periods 1891, 1901, and 1911 is shown in the following table :—

Municipal Population.	1891.	1901.	1911.
The Coastal Belt—			
Northern	14,344	19,424	29,245
Hunter and Manning Rivers	72,791	78,917	82,782
Metropolitan	422,064	532,494	690,318
Southern	33,243	35,996	36,887
Total	542,442	666,831	839,232
The Tableland—			
Northern	13,052	16,999	20,102
Central	31,616	37,990	44,970
Southern	17,545	17,814	17,213
Total	62,213	72,803	82,285
The Western Declivity—			
North-Western Slope	9,818	13,425	19,414
Central-Western „	11,574	12,737	13,768
South-Western „	20,691	27,349	32,189
Total	42,083	53,511	65,371
The Central Plains and Riverina—			
North-Central Plain	1,143	2,975	3,737
Central Plain „	3,238	8,109	9,263
Riverina	9,457	11,167	12,315
Total	13,838	22,251	25,315
The Western Plains—			
Plains East of the Darling	5,139	7,793	8,149
„ West „	22,473	28,721	31,642
Total	27,612	36,514	39,791
<i>Summary.</i>			
The Coastal Belt	542,442	666,831	839,232
The Tableland	62,213	72,803	82,285
The Western Declivity	42,083	53,511	65,371
The Central Plains and Riverina	13,838	22,251	25,315
The Western Plains	27,612	36,514	39,791
Total, New South Wales ...	688,183	851,910	1,051,994

UNINCORPORATED LOCALITIES WITH A POPULATION OVER 500.

Unincorporated localities with a population greater than 500 persons show an abnormal increase from 1901 to 1911, even in districts in which the general population is on the decline. The unincorporated population in the townships and villages of the Coastal Belt was stated as 23,748 in 1891, and during the twenty years under review its recorded gain amounted to 65,281 persons, or 13,869 for the first and 51,452 for the second decade, as shown in the following summary of Divisions :—

Division.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
North Coast	2,756	14,432	17,188
Hunter and Manning Rivers ...	6,827	27,800	34,627
Metropolitan	6,383	4,167	10,550
South Coast	2,097	5,053	2,956
Total	13,869	51,452	65,321

(—) Denotes decrease.

The increases shown for "Localities" not otherwise defined, for the census year 1911, are subject to very grave criticism, even though the fullest allowance be made for the opening to settlement of the North Coast by free selectors, the construction of the littoral railway, the expansion of coal-mining areas, and the establishment of manufacturing industries in Newcastle and in the metropolitan county of Cumberland.

In the Division of the North Coast the unincorporated township of Murwillumbah was proclaimed a municipal district on 25th May, 1902, and the unincorporated township of Mullumbimby on the 1st July, 1908, these places henceforth appearing in the table of municipal populations. For reasons that have been sufficiently discussed in a former part of this inquiry, the population given in the census table of 1911 for "Localities" cannot be accepted as definitive.

Whenever, in the history of settlement in this State, any given centre found that its position entitled it to incorporation, steps were immediately taken, as a measure of self-defence and a condition of progress, to secure the status of a borough or of a municipal district, and when such a place became unable to maintain such a status, it straightway was absorbed in the unincorporated region in which it was situated. The process became practically automatic, and since the inauguration of the Shires Act, inevitable.

But from the census of "Localities" not otherwise defined, for the year 1911, it would appear that no fewer than twenty-six localities, with populations from 509 to 1,615, in the Division of the North Coast remained outside the municipal pale. Their total increase of population for ten years amounted to 14,432, while the total increase of eleven municipalities in the same Division amounted only to 9,821. As no details are available, investigation is arrested at the very threshold of this inquiry, but doubtless overstatement of habitancy, in referring to postal centres as urban entities, is in the main a responsible factor.

The unincorporated population in the townships and villages of the Tableland was stated as 15,550 in 1891, and during the twenty years under review its recorded gain amounted to 17,524 persons, or 5,647 for the first, and 11,877 for the second decade, as shown in the following summary of Divisions:—

Division,		Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
Northern Tableland	... ..	(—) 921	3,550	2,629
Central	" ..	3,559	6,407	9,966
Southern	" ..	3,009	1,920	4,929
Total		5,647	11,877	17,524

(—) Indicates decrease.

The considerable decline in the population of the unincorporated townships and villages of the Northern Tableland in the period 1891-1901 was partly due to the incorporation of Hillgrove as a borough on the 20th September, 1899, and partly to the decrease in number of the tin-mining operators at Tingha, but Guyra appeared as a new urban centre, and Drake, with over 800, and Bora Creek, with nearly 600 persons, made partial amends.

At the census of 1891 the Northern Tableland contained a mining population of 3,781 males, and at that of 1901 a mining population of 3,510 males, showing a decrease of 280, who with their dependents and domestics would alone represent a loss of about 730 persons to the community of the Division. In the year 1911 the census recorded 3,086 males as engaged in mining, or a further decrease of 424 males, who with their dependents and domestics would show a total loss of 1,139 persons, albeit the census of "Localities" not otherwise defined exhibits a total gain for the unincorporated townships and

villages during ten years of 3,550, while the authentic total gain for the municipalities of the Division of the Northern Tableland for the same period 1901-1911 was 3,103.

The large increase in the unincorporated population of the Central Tableland was due partly to the development of mountain industries, as at the cement works of Portland, oil-shale mining at Newnes, and silver-winning at Yerranderie; but it was due also to the railway conditions and facilities which made possible to Sydney workers a residence in the mountains at such places as Leura, Blackheath, Wentworth Falls, Springwood, and Lawson. But the factor of overstatement was by no means absent, and in the case of municipalities of known populations and defined areas it amounted to 14.5 per cent.

The unincorporated population of the Southern Tableland showed an increase of 4,929 for the twenty years under review, or 3,009 for the first and 1,920 for the second decade, but the municipal population showed an increase of only 269 for the first decade, and a loss of 601 for the second, or a total loss for twenty years of 332, while the density of the whole Division, which ranged from 4.01 to 4.14 during the first, fell to 3.85 during the second decade. According to the census of "Localities" not otherwise defined, for 1911, the population of Bungendore and Captain's Flat declined as the result of the decrease of the output of the local goldfields. The increased population of Kenmore, as already pointed out, was due to admissions to the asylum for the insane. Crookwell's increase, like that of Gunning, was by no means abnormal, but Adaminaby and Nimitybelle would appear to have more than doubled the number of their inhabitants during the decade 1901-1911.

The unincorporated population in the townships and villages of the Western Declivity was stated as 5,818 in 1891, and during the twenty years under review its recorded gain amounted to 21,565 persons, or 4,950 for the first and 15,615 for the second decade, as shown in the following summary for the Divisions:—

Division.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
North-Western Slope ...	2,129	5,249	7,378
Central Western Slope...	1,844	3,773	5,617
South-Western Slope ...	977	6,593	7,570
Total ...	4,950	15,615	20,565

For the first decade the increase in the unincorporated population of the townships and villages of the North-Western Slope appeared to be normal and regular. Boggabri remained almost stationary, Werris Creek added less than 200 persons to the number of its inhabitants, Warialda did not appear (having been proclaimed a municipal district on the 30th March, 1900), Manilla showed an increase of 200 per cent. on the figures of 1891, and it was proclaimed a municipal district, shortly after the census, on the 11th June, 1901, and Barraba increased the number of its inhabitants by a little more than 300.

According to the figures shown in the census of "Localities" not otherwise defined, for 1911, Boggabri, during the second decade of the period under review, had increased on its population by nearly 250 per cent., Werris Creek by over 115 per cent., Curlewish by over 785 per cent., Delungra appeared for the first time with 819 inhabitants, Attunga nearly doubled its population, and other townships and villages showed considerable increases. Overstatement in the case of municipalities of known populations and defined areas amounted to 22 per cent., and there must have been a great overstatement in the case of unincorporated townships and villages of indeterminate areas.

The unincorporated population of the Central-Western Slope showed an increase during the first decade of the period under review of over 1,700, due to the two unusual entries of "Dubbo (outside municipality) 1,083," and "Dubbo-Newtown 621," also to an increment of over 500 due to the growth of Eugowra. Dubbo did not, before or after, exhibit populations under the two designations above cited, and the increase shown by the census of 1901 was due to an influx of railway workers engaged in constructing the branch line to Coonamble.

During the second decade the increase in the unincorporated population of the Division amounted to over 121 per cent. Canowindra was shown with an increase of nearly 269 per cent., Coonabarabran with over 77 per cent., Eugowra of over 36 per cent., Coolah of over 201 per cent., Manildra of over 72 per cent., Cummoock of over 106 per cent., and Goolagong of 249 per cent., while Cargo remained stationary. Over-statement in the case of municipalities of known populations and defined areas in the Central Western Slope amounted to 17.5 per cent.

The unincorporated population of the South-Western Slope increased by 7,570 persons during the twenty years under review, or by 977 for the first and 6,593 for the second decade. Of this increase, 1,420 constituted in 1901 the combined populations of Germanton (now Holbrook) and Tumbaramba, two townships which at the census of 1891 had not reached the required urban standard, and at the census of 1911 eight new townships accounted for about 5,000 persons. The population of Grenfell (outside the municipality) comprised mainly a goldfields habitancy. The increase in the population of Adelong was not excessive. Temora in 1891 was accredited with 915 inhabitants, but on the 22nd December following the enumeration of the census it was proclaimed a borough. Wallendbeen, in 1891 under the urban standard, was proclaimed a municipal district on the 21st May, 1892. The overstatement relating to the population of municipalities of known populations and defined areas in the South-Western Slope amounted to 21.6 per cent.

The unincorporated population in the townships and villages of the Division of the Central Plains and Riverina was stated as 4,963 in 1891, and during the twenty years under review its recorded gain amounted to 18,371 persons, or 4,508 for the first and 13,863 for the second decade, as shown in the following summary of Divisions:—

Division.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
North-Central Plain	1,108	2,002	3,110
Central Plain	948	734	1,682
Riverina	2,452	11,127	13,579
Total	4,508	13,863	18,371

The increase in the unincorporated population of the North-Central Plain in 1901 was due mainly to the appearance of Wee Waa for the first time among townships of the urban standard. Mungindi and Boomi were similarly recorded at the census of 1911. West Narrabri appeared as a village of 384 inhabitants at the census of 1891, but was proclaimed a municipal district on the 26th September, 1895.

A curious fact of the unincorporated population of the Central Plain is found in the circumstance that not one of the three localities which together constituted its total of 3,050 persons in 1891 was represented at the census of 1901. Peak Hill was proclaimed a municipal district on the 7th November, 1894, and Warren on the 23rd April, 1895, while Alectown lost so considerably in its mining population that it fell below the urban standard.

In 1901 the unincorporated population was represented by Trangie, Gilgandra, West Wyalong, and McPhail—the two former agricultural and pastoral centres of country newly opened to free selection, the two latter gold-mining centres, though McPhail was one of those sporadic excrescences in the annals of mineral development so numerous in the history of the West.

Gilgandra's population as recorded at the enumeration of the census of 1911 appears to be excessive, in view of the fact that the agricultural and pastoral industries of the surrounding district did not greatly favour concentration of habitancy in compact centres. The combined populations of Trundle and Bogan Gate, now first classed as urban in status, increased the recorded population of unincorporated "Localities" not otherwise defined, of the Division of the Central Plain by 1,361 persons. Trangie increased the number of its inhabitants by 161 persons only. West Wyalong, by some oversight, escaped enumeration but, as already pointed out in a former part of this inquiry, it was probably confounded and included with Wyalong proper, a municipal district in the adjoining Division of the South-Western Slope.

The Division of the Riverina had made a great advance in general settlement, but all its old municipalities, with the exception of Narrandera, retrogressed in the second decade of the twenty-years' period under review, and its municipal population would have shown a serious loss had it not been for the proclamation of Corowa as a municipal district on the 13th June, 1903. The unincorporated population of the townships and villages of the Division of the Riverina, on the other hand showed, according to the census of "Localities" for 1911, a remarkable increase, amounting to more than 307 per cent.

The sole unincorporated population in 1891 was represented by Corowa, subsequently proclaimed a municipal district, and in 1901 by Corowa, Berrigan, Henty, and Ganmain—the first appearance in a census record of the last-mentioned, while Berrigan and Henty came just within the urban status. In 1911 no fewer than fifteen new townships, with populations ranging from 545 to 1,674 (in addition to Berrigan, Ganmain, and Henty, with large proportional increases), made their appearance for the first time in a census as having reached the urban standard, and though Corowa had dropped out of calculation on account of its reclassification as a municipal district, 13,579 persons were added to the unincorporated population of townships and villages in the Division of the Riverina at the taking of the last census.

Making every allowance for the great expansion of the agricultural industries in this Division, the growth of localities, in contradistinction to that of the old-established and administratively-equipped municipal centres, appears to be abnormal, and is probably due to causes already fully discussed.

The unincorporated population in the townships and villages of the Division of the Western Plains was stated as 1,884 in 1891, and during the twenty years under review its recorded gain amounted to 1,559 persons, or 547 for the first and 1,012 for the second decade, as shown in the following summary of Sections:—

Section.	Increase, 1891-1901.	Increase, 1901-1911.	Increase, 1891-1911.
Plains East of the Darling River ... (-)	440	700	350
Plains West of the Darling River ...	987	222	1,209
Total	547	1,012	1,559

The decrease in the unincorporated population of the Plains East of the Darling River during the decade 1891-1901 was owing entirely to the decline of the copper-mining township and mineral field of Nymagee, the

only quasi-urban centre represented for two successive census periods. In 1911 it fell below the urban standard, and the unincorporated population of the East-of-the-Darling Plains was represented entirely by Canbelego, a copper-mining field in the county of Robinson.

The unincorporated population of the Plains West of the Darling was represented in 1891 solely by the gold-field of Acacia Dam. In 1901 the unincorporated population was represented by the precious-opal field of White Cliffs, which lost the majority of its inhabitants prior to the taking of the next census. The remainder of the unincorporated population of the West-of-the-Darling Plains was made up in 1911 of the inhabitants of the pastoral centre of Collarendabri and the opal-field of Lightning Ridge or Wallangulla.

The population of the unincorporated towns and villages (1891 and 1901) and Localities, not otherwise defined (1911), is shown in the subjoined table :—

Population of Unincorporated Towns, Villages (1891 and 1901), and Localities not otherwise defined (1911).					1891.	1901.	1911.
Coastal Belt—							
Northern	...	...	...	...	3,184	5,940	20,372
Hunter and Manning Rivers	...	...	...	...	5,649	12,476	40,276
Metropolitan	...	...	...	...	6,122	12,505	16,672
Southern	...	...	...	...	8,793	6,696	11,749
Total...					23,748	37,617	89,069
Tablelands—							
Northern	...	...	...	...	4,557	3,636	7,186
Central...	...	...	...	...	8,716	12,275	18,682
Southern	...	...	...	...	2,277	5,286	7,206
Total ..					15,550	21,197	33,074
The Western Declivity—							
North-Western Slope	...	...	...	...	1,453	3,582	8,831
Central „ „	...	...	...	...	1,190	3,034	6,807
South „ „	...	...	...	...	3,175	4,152	10,745
Total...					5,818	10,768	26,383
The Central Plains and Riverina—							
North Central Plain	...	...	...	...	742	1,850	3,852
Central Plain	...	...	...	...	3,050	3,998	4,732
Riverina	...	...	...	...	1,171	3,623	14,750
Total...					4,963	9,471	23,334
The Western Plains—							
Plains East of the Darling	...	...	...	...	1,321	881	1,671
„ West „ „	...	...	...	...	563	1,550	1,772
Total...					1,884	2,431	3,443
<i>Summary.</i>							
Coastal Belt...	...	...	...	...	23,748	37,617	89,069
Tablelands	...	...	...	...	15,550	21,197	33,074
The Western Declivity	...	...	...	...	5,818	10,768	26,383
The Central Plains and Riverina	...	...	...	...	4,963	9,471	23,334
The Western Division	...	...	...	...	1,884	2,431	3,303
Total, New South Wales...					51,963	81,484	175,303

URBAN AND RURAL ELEMENTS OF THE POPULATION OF THE STATE.

Based on the census of "Localities" not otherwise defined, of the census of 1911, the relation between the urban and rural elements of the population is highly problematical. There is little need for surprise at the gradual encroachment of a city-dwelling population in the metropolitan county of Cumberland, which as time advances must grow more and more into a manufacturing and trading community. It is a well-known fact also that the population of the South Coast is declining steadily, but it is incomprehensible that concurrently with that general decline there should be a great augmentation of an urban—and particularly of an unincorporated urban—section of the people.

At the census of 1891 the total population of the Division of the South Coast was 69,758, and it gained 2,987 persons during the decade 1891–1901, but lost 2,027 persons during the decade 1901–1911, the total gain for twenty years being only 960. The municipal population of the South Coast in 1891 was 33,243, and it gained 2,753 persons during the decade 1891–1901, and 891 persons during the decade 1901–1911, the total municipal gain for twenty years being 3,644. The unincorporated population of the Division in 1891 was 8,793, and it actually lost during the decade succeeding that date 2,097 persons, but according to the census of "Localities" for 1911, the unincorporated population of the Division of the South Coast during the next decade gained 5,053 persons, thus showing an increase in its unincorporated population of nearly 3,000 persons for the period of the twenty years under review, though the Division had long been declining in population and prosperity.

It must, however, be remembered that a number of quasi-urban centres or localities otherwise undefined in the Division of the South Coast were aggregations of men operating as miners. But these were not numerous enough to modify the total urban population to the extent stated by the census of "Localities" for 1911. Coal-miners were resident in the municipalities of Wollongong and North and Central Illawarra, as well as in the unincorporated localities of Woonona, Corrimal, Bulli, Balgownie, Bellambi, Mount Keira, the three Kemblas, and other coal-winning centres, but the total number of miners in the Division, inclusive of those engaged in quartz-reefing and prospecting for gold in the southern counties, was only 3,568 males, or on the basis of distribution of dependents and domestics already adopted, a total mining population of 8,595 persons, which by the nature of occupation should be classed as rural.

The urban gain in the South Coast Division shown for the year 1911 is the more remarkable on account of the fluctuations in the number of all classes of the industrial population. Throughout the period of the twenty years under review the number of persons engaged in agriculture declined by 2,760, those engaged in pastoral pursuits by 2, and all primary producers by 1,254. The industrial class declined for the same period by 1,928, and all other occupations than those of primary production by 331. Persons engaged in mining increased during the twenty years by 628, those engaged in primary production, exclusive of agriculturists, pastoralists and miners, by 880, the commercial class by 599, persons engaged in transport and communication by 280, the professional class by 277, the domestic class by 662, and dependents by 2,076. All breadwinners declined continuously.

A close analysis of the constituents of this Division emphatically does not warrant any estimate of a considerable urban population during the twenty years under review, and the census of "Localities" for 1911 must be accepted with critical caution. It will be noted that anomalies of statement with regard to population cannot be corrected with respect to unincorporated

localities, but they can with regard to the population of municipalities, which, often largely rural, was enumerated correctly within assigned boundaries in the table relating to incorporated areas, although incorrectly so in the table of "Localities".

The population of the Tableland in its urban and rural elements has been sufficiently discussed in a former part of this inquiry, and does not call for extended comment, save in the case of the Southern Division, which suffered a decline in populousness during the twenty years under review of 2,000 persons, for though it gained 1,521 in the first it lost 3,521 in the second decade, its density ranging from 4.01 persons per square mile in 1891 to 4.14 in 1901, and to 3.85 in 1911. During the twenty years 1891-1911 the population of municipalities within the Division declined by 332, gaining 269 persons in the first, and losing 601 in the second decade, but the unincorporated urban population is shown to have gained 4,929 persons during the twenty years under review, or 3,009 in the first and 1,920 in the second decade. Meanwhile, the rural population is shown to have declined by 6,597 persons for the twenty years 1891-1911, or by 1,757 during the first and by 4,840 during the second decade.

During the first decade primary production increased in every one of its subdivisions, during the second decade persons engaged in agriculture and mining decreased in number, but persons engaged in pastoral pursuits and "Other" primary occupations increased in number. Persons engaged in industrial occupations considerably decreased during the first decade, and gained during the second, but in 1911 was still nearly 600 short of its numerical representation in 1891. The number of persons engaged in commerce increased in number during the first decade, and remained almost stationary during the second. Persons engaged in transport and communication, partly the result of railway expansion, steadily increased in number throughout the twenty years under review, and the same comment applies to the professional class, but the domestic class increased during the first decade and declined during the second, and its representatives did not fall below the total of 1891, whereas the dependents increased during the first decade, and declining during the second their total fell below that of 1891. The decline in population was probably general throughout the Division in both its urban and rural elements.

The rural element of the population of the North-Western Slope, in the Territorial Area of the Western Declivity, as recorded by the census of 1911, was less by 1,000 than that of the rural population based on the number of primary producers, with proportional numbers of dependents and domestics. In the Central-Western Slope the difference was nearly 600 less, and in the South-Western Slope over 1,400 less, or for the whole of the Western Declivity over 2,900 persons less, a result partly due to the rural nature of many of the municipalities, and to over-statement of residence with respect to unincorporated townships and villages, and localities otherwise undefined.

The figures for 1911 relating to the North-Central Plain show a close approach of the census enumeration to the computation of the rural population based on primary producers, the former, indeed, being 272, or nearly 3 per cent, higher than the latter, which proportion would, of necessity, supply the number of persons of subsidiary or complementary occupations dependent upon and assisting primary producers. The census figures for the Central Plain fall short, however, of the computation of the rural population based on primary producers by 591, those for the Division of the Riverina by 3,583, and those for the whole Territorial Area comprising the three Divisions by 3,902. The reason for this, as has already been pointed out with reference to other Territorial Areas, was due partly to invasion of municipal districts by rural

workers, and partly to overstatement of residence with respect to unincorporated townships and villages, and localities not otherwise defined.

The quasi-urban population of the Western Division was greatly overstated, a fact due to the rural nature of the occupations of the mining municipalities of Cobar, Wrightville, and Broken Hill, and of the unincorporated mining townships of Canbelego, Nymagee, Wallangulla (Lightning Ridge), and White Cliffs. If the mining population were to be deducted from the total number of the inhabitants of these seven places, their urban representation would be greatly decreased. The rural population, based on a computation of primary producers, their dependents and domestics, amounted for the whole of the Western Division in 1911 to 34,052, or 20,674 in excess of that supplied by the census—an excess which reached nearly 155 per cent.

A comparison which excludes the county of Robinson and its enclosed mining-fields, in the Plains East of the Darling River, and the county of Yancowinna and its enclosed mining-fields, in the Plains West of the Darling River, discloses results of urban and rural elements totally different. But, apart from its activities in the winning of minerals in a few circumscribed areas, the Western Division is becoming depopulated, and the pastoral industry, which was once its great distinctive characteristic, has languished and declined ever since the last great drought in 1901-3, when about half the State's flock perished, besides considerable numbers of other stock.

The following table shows the municipal and non-municipal urban and the rural elements of the population of New South Wales in Divisions at the census periods of 1891, 1901, and 1911 :—

Division.	Incorporated and Unincorporated.	Population.					
		1891.		1901.		1911.	
		Quasi- Urban.	Rural.	Quasi- Urban.	Rural.	Quasi- Urban.	Rural.
North Coast.. ..	Municipal	14,344	..	19,424	..	29,245	..
	Non-municipal ..	3,184	..	5,940	..	20,372	..
	Total	17,528	31,647	25,364	38,566	49,617	47,325
Hunter and Manning Rivers	Municipal	72,791	..	78,917	..	82,782	..
	Non-municipal ..	5,649	..	12,476	..	40,270	..
	Total	78,440	58,374	91,393	64,301	123,058	68,857
Metropolitan	Municipal	422,064	..	532,494	..	690,318	..
	Non-municipal ..	6,122	..	12,505	..	16,672	..
	Total	428,186	18,828	544,999	18,384	706,990	13,716
South Coast.. ..	Municipal	33,243	..	35,596	..	36,887	..
	Non-Municipal ..	8,793	..	6,666	..	11,709	..
	Total	42,036	27,722	42,632	30,053	48,596	22,082
The Coastal Belt—Total ..		566,190	136,571	704,448	151,294	928,301	151,980
Northern Tableland ..	Municipal	13,052	..	16,999	..	20,102	..
	Non-municipal ..	4,557	..	3,636	..	7,186	..
	Total	17,609	23,829	20,635	26,043	27,288	26,893
Central	Municipal	31,616	..	37,990	..	44,970	..
	Non-municipal ..	8,716	..	12,275	..	18,682	..
	Total	40,332	49,483	50,265	50,921	63,652	47,577
Southern	Municipal	17,545	..	17,814	..	17,213	..
	Non-municipal ..	2,277	..	5,286	..	7,206	..
	Total	19,822	29,796	23,100	28,039	24,419	23,199
The Tableland—Total ..		77,763	103,108	94,000	105,003	115,359	97,669

Division.	Incorporated and Unincorporated.	Population.					
		1891.		1901.		1911.	
		Quasi- Urban.	Rural.	Quasi- Urban.	Rural.	Quasi- Urban.	Rural.
North-Western Slope ..	Municipal ..	9,818	..	13,425	..	19,414	..
	Non-municipal ..	1,453	..	3,582	..	8,831	..
	Total ..	11,271	20,392	17,007	26,412	28,245	30,599
Central-Western ..	Municipal ..	11,574	..	12,737	..	18,768	..
	Non-municipal ..	1,190	..	3,034	..	6,807	..
	Total ..	12,764	18,255	15,771	22,877	20,575	23,393
South-Western ..	Municipal ..	20,691	..	27,349	..	32,189	..
	Non-municipal ..	3,175	..	4,152	..	10,745	..
	Total ..	23,866	31,780	31,501	34,797	42,934	34,206
The Western Declivity—Total ..		47,901	70,427	64,279	84,086	91,754	88,198
North Central Plain ..	Municipal ..	1,143	..	2,975	..	3,737	..
	Non-municipal ..	742	..	1,850	..	3,852	..
	Total ..	1,885	6,852	4,825	7,634	7,589	9,586
Central Plain ..	Municipal ..	3,238	..	3,109	..	9,263	..
	Non-municipal ..	3,050	..	3,998	..	4,732	..
	Total ..	6,288	15,103	12,107	17,764	13,995	19,529
Riverina ..	Municipal ..	9,457	..	11,167	..	12,315	..
	Non-municipal ..	1,171	..	3,623	..	14,750	..
	Total ..	10,628	25,558	14,790	31,418	27,065	30,941
The Central Plains and Riverina—Total ..		18,801	47,518	31,722	56,816	48,649	60,056
Plains East of the Darling ..	Municipal ..	5,139	..	7,793	..	8,149	..
	Non-municipal ..	1,321	..	881	..	1,671	..
	Total ..	6,460	8,456	8,674	7,097	9,820	5,976
Plains West of the Darling ..	Municipal ..	22,473	..	28,721	..	31,642	..
	Non-municipal ..	563	..	1,550	..	1,772	..
	Total ..	23,036	12,019	30,271	9,030	33,414	7,402
The Western Plains—Total ..		29,496	20,475	38,945	16,127	43,234	13,378
SUMMARY.							
The Coastal Belt ..	Municipal ..	542,442	..	666,831	..	839,232	..
	Non-municipal ..	23,748	..	37,617	..	89,029	..
	Total ..	566,190	136,571	704,448	151,294	928,301	151,980
The Tableland ..	Municipal ..	62,213	..	72,803	..	82,285	..
	Non-municipal ..	15,550	..	21,197	..	33,074	..
	Total ..	77,763	103,108	94,000	105,003	115,359	97,669
The Western Declivity ..	Municipal ..	42,083	..	53,511	..	65,371	..
	Non-municipal ..	5,818	..	10,768	..	26,383	..
	Total ..	47,901	70,427	64,279	84,086	91,754	88,198
The Central Plains and Riverina.	Municipal ..	13,838	..	22,251	..	25,315	..
	Non-municipal ..	4,963	..	9,471	..	23,334	..
	Total ..	18,801	47,518	31,722	56,816	48,649	60,056
The Western Plains ..	Municipal ..	27,612	..	36,514	..	39,791	..
	Non-municipal ..	1,884	..	2,431	..	3,443	..
	Total ..	29,496	20,475	38,945	16,127	43,234	13,378
New South Wales ..	Municipal ..	688,188	..	851,910	..	1,051,994	..
	Non-municipal ..	51,963	..	81,484	..	175,263	..
	Grand Total ..	740,151	378,099	933,394	413,326	1,227,297	411,281

The municipal and non-municipal urban and the rural elements of the population according to Divisions and Territorial areas in 1891, 1901, and 1911, were as follows:—

	1891.	1901.	1911.
The Coastal Belt—			
Municipalities	542,442	666,831	839,232
Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	23,748	37,617	89,029
Total, Quasi-urban	566,190	704,448	928,301
Remainder of Territorial Area (Rural)	136,571	151,294	151,980
Total	702,761	855,742	1,080,281
The Tablelands—			
Municipalities	62,213	72,803	82,285
Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	15,550	21,197	33,074
Total, Quasi-urban	77,763	94,000	115,359
Remainder of Territorial Area (Rural)	103,108	105,003	97,689
Total	180,871	199,003	213,028
The Western Declivity—			
Municipalities	42,083	53,511	65,371
Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	5,818	10,768	26,383
Total, Quasi-urban	47,901	64,279	91,754
Remainder of Territorial Area (Rural)	70,427	84,086	88,198
Total	118,328	148,365	179,952
The Central Plains and Riverina—			
Municipalities	13,838	22,251	25,315
Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	4,963	9,471	23,334
Total, Quasi-urban	18,801	31,722	48,649
Remainder of Territorial Area (Rural)	47,518	56,816	60,056
Total	66,319	88,538	108,705
Western Division—			
Municipalities	27,612	36,514	39,791
Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	1,884	2,431	3,443
Total, Quasi-urban	29,496	38,945	43,234
Remainder of Territorial Area (Rural)	20,475	16,127	13,378
Total	49,971	55,072	56,612
Summary : New South Wales—			
Municipalities	688,188	851,910	1,051,994
Towns and Villages (1891 and 1901) and "Localities" not otherwise defined (1911), of 500 Inhabitants and upwards	51,963	81,484	175,263
Total, Quasi-urban	740,151	933,394	1,227,297
Remainder of State (Rural) ...	378,099	413,326	411,281
Total	1,118,250	1,346,720	1,638,578
Federal Capital Territory	—	—	1,714
Lord Howe Island	55	100	105
Shipping	5,649	8,026	8,051
Total, New South Wales ...	1,123,954	1,354,846	1,648,448

THE MOVEMENT OF POPULATION AND INCIDENCE OF SETTLEMENT.

The general movement of population throughout the State appears to be northward, though there are subsidiary movements from one part of a Division to another, and even from one part of a county to another part, the determining causes of these movements being mineral discoveries, railway extension, and the throwing open of pastoral areas to free selection. The aggregation of large holdings of freehold property operates also in the determination of a population tendency, as in the case of the counties of Cook and Bathurst, to which reference will presently be made.

THE GROWTH OF POPULATION IN THE NORTH.

In the Division of the North Coast, the county of Rous is advancing at the expense of the county of Clarence, even as the chief town of the former county, Lismore, is outstripping the chief town of the latter county, Grafton. The decline of the sugar industry was accompanied by the arrest of the development of Grafton, though it did not suffer stagnation. The transplanted dairying industry of the South to the North Coast gave an impetus to five of the six counties comprising the Division, though the southernmost county of Dudley was little benefited by pastoral invasion, and this applies also to its municipal township of Kempsey.

All the municipalities of the North Coast have advanced in population and unincorporated townships have been proclaimed as municipal districts, but no town has progressed anywhere within the Division at the rate of Lismore. The phenomenal development of a number of new unincorporated townships, such as Bellingen, Dorrigo, Kyogle, Byron Bay, Coffs Harbour, Bangalow, Alstonville, etc., which prior to the census of 1911 were little known or unknown, raises considerable doubt as to the authenticity of the figures recorded in the census of "Localities" for that year, but this matter has already been sufficiently discussed. Even should every allowance be made for over-statement, and the utmost discount be subtracted, the amplitude of the settlement and the vigour of the industrial invasion of the North Coast would be incontrovertibly established by its general growth, notwithstanding that the rural element, as shown by the "Localities" census of 1911, falls short by several thousands of the rural element as computed from the number of primary producers in the Division, their dependent families, and their domestic assistants.

The Northern Tableland has progressed, though possibly not at the expense of the Southern Tableland, as the North Coast progressed at the expense of the South Coast. The Central Tableland has progressed also, but not so generally, several countries being dormant if not retrogressive. The Southern Tableland has actually suffered a set-back in population. The general movement of settlement in the Tableland has been northward, but in this particular Territorial Area settlement is always greatly modified by the rise and fall of mineral development.

The internal movement of population in the Division of the Northern Tableland was as marked as in the Division of the North Coast. In 1891 the two principal counties in the Division, Gough and Sandon, stood practically on the same level of population; in 1901 Sandon was leading, but in 1911 Gough was nearly 4,000 ahead. The counties of Hardinge and Clive represent a similar duel of progress, with the achievement of marked superiority by the former. But all the Division's nine counties gained continuously from census to census save two only, namely Drake and Gresham, in which possibly the fluctuations of mining activities were reflected in the emigration of the inhabitants.

The same anomalies of competition in development are found in the towns of the Division. In 1891 Inverell contained a habitaney less than that of Armidale by 1,300, but in 1911 the former town had reached almost the population level of its rival. In 1891 Glen Innes and Tenterfield were placed on the same plane of population, but the former in 1911 had left the latter far behind in the number of its inhabitants. Hillgrove, essentially dependent on the development of its mines, showed a decline which is eloquently illustrative of the industry throughout the Commonwealth, and which finds additional emphasis in the fluctuations of the figures of population relating to the unincorporated tin-fields of Tingha, Emma'sville, and Deepwater, the silver-field of Howell, and the goldfields of Drake and Bora Creek.

The Western Declivity as a territorial entity progressed generally, and presented few anomalies of development save with respect to the rural element in its population in 1911. The North-Western and Central-Western Divisions had practically the same numerical population in 1891, but the former during the twenty years under review added 27,000 to the number of its inhabitants, and outstripped the latter by nearly 15,000. The South-Western Division of the Declivity, always the most densely populated, increased its population by over 21,000 persons, hence in the comparison of numerical increases the North-Western Slope, like other northern Divisions already discussed, took the lead, though it cannot be said that it did so at the expense of the South-Western Slope. Most probably the Central Western Slope has had its own development greatly retarded, both by its northern and by its southern territorial neighbour.

Of the counties of the North-Western Slope, Inglis in 1891 contained a population in excess of that of Pottinger by 2,000, in 1901 the county of Inglis had increased its relative supremacy, but in 1911 the county of Pottinger was in the lead. A similar contest is to be observed between the counties of Parry and Buckland. In 1891 the latter county had 1,000 inhabitants more than Parry, in 1901 it had increased the difference to over 2,000, but in 1911 Parry led by over 300. In 1891 the county of Darling was inferior in population to Nandewar, during the intervening ten years Darling overtook and exceeded Nandewar in population, and during the next ten years Nandewar overtook and surpassed Darling. During the twenty years under review, the county of Murchison increased its population of nearly 3,000 by over 2,000 additional inhabitants, the county of Arrawatta considerably more than doubled its population, and the county of Burnett doubled its population.

No county in the Division of the North-Western Slope suffered the effects of retrogression. The municipal townships all showed progress throughout the period, with the exception of Warialda. The unincorporated townships and villages showed a progress of normal growth during the first decade, and of marvellously accelerated growth during the second—subject to the strictures and criticism already detailed, and sporadically prosperous gold-fields, like Little Plain and Swamp Oak, suffered the usual vicissitudes that affect the enterprise of mining. The computation of the rural population of the Division, based on the number of primary producers, their dependent families, and domestic assistants, and making no allowance for subsidiary and secondary industries, without which rural occupation is impossible or unprofitable, shows for the year 1911 an excess of 1,000 over the rural population based on the census of "Localities" not otherwise defined.

THE GROWTH OF POPULATION IN THE CENTRAL DIVISIONS.

The increase of population in the Territorial Area comprising the Divisions of the Central Plains and the Riverina, like that of the Western Declivity, was general throughout, and though the numerical increase was by far the highest.

in the Southern Division, and higher in the Central, the relative increase was greatest in the Northern. In the progressive development of the counties in the Division of the North Central Plain, the only interruption was in the case of the county of Jamison during the first decade of the twenty years under review, but the position was amply retrieved during the succeeding ten years. Probably on account of the nature of the agricultural and pastoral settlement of this Division, and of the small number of centres it contains, overstatement has not been so evident as in areas differently circumstanced, and the rural element in the population, according to the census of "Localities," namely, 9,586, was 272 in excess of that based on the number of primary producers in the Division, their dependent families and assisting domestics, and permits the inclusion of persons following callings auxiliary to those of primary production.

The Central Division of the Coastal Belt included the counties watered by the Hunter and the Manning Rivers and the Metropolitan Division. All the counties in the first-named area have gained in population, but the county of Northumberland had long held a lead which constituted it, both in population and in density, second only to the metropolitan and adjoining county of Cumberland among the counties of the State. This pre-eminence it held absolutely on account of the existence of the great coal deposits of the Greta measures within its borders. These Greta measures traverse the adjoining northern counties of Gloucester, Durham, and Brisbane, and the southern counties of Cumberland and Camden, but nowhere are they so productive and so apparently inexhaustible as in the county of Northumberland, which in 1911 contained a population six-and-a-quarter times as numerous as the county next in numerical order in the Division.

The three counties of Gloucester, Macquarie, and Durham show little difference in the incidence of their development and the near equality of its results in population. The county of Brisbane is much farther down in the scale of habitancy, the county of Hunter lower still, and the county of Hawes is negligible. It is unlikely that the county of Northumberland depleted other areas for its coal-mining operatives, who, originally from the north of England and from Wales, have so long settled in the coal-winning districts as to form a reproductively native race.

Notwithstanding the growth of population the municipalities of the Division of the Hunter and Manning Rivers have not correspondingly increased, some have progressed slowly and steadily, some have stagnated, and some have actually suffered loss of inhabitants. The quasi-urban population of the unincorporated townships has, however, increased amazingly, but the greater number are merely coal-workings without the least pretensions to a corporate existence of even the most informal type. But this aspect of coal-field organization has been amply discussed in a former part of the present inquiry. A number of places classed as "Localities" were, of course, typical townships, such as grow up round a wayside camping-place, a railway-siding, a post office in an agricultural or a dairy-farming district, and even more frequently in the neighbourhood of a hotel on a main road between far distant and important centres.

The Metropolitan Division, comprising the county of Cumberland, is geographically part of the Central Division of the Coastal Belt. It has been already discussed and analysed with respect to its population in municipal and non-municipal urban areas, and the constitution of its inhabitants according to the census of the occupations of the people. It is here necessary only to summarise certain aspects of its remarkable development and to examine the conditions which have conducted to its centralized supremacy.

The Growth of Sydney.

A consideration of the growth of Sydney involves a consideration of the growth of the other capital cities of Australasia, for the same factors in favour of concentration of a large number of immigrants at the port of debarkation operated in each case to promote a condition of populousness which, only in a superficial sense, can be designated abnormal. The same influences which made Sydney, Melbourne, and other accessible centres on the Australian littoral intensively habited are recognised, and by no means extenuated or excused, in connection with the coastal cities of the United States, notwithstanding the fact that North America was invaded at various points by settlements of Dutch, Swedes, French, Spanish, and British, with their varying antipathies of race, religion, and language.

The same causes have operated to make Sydney the leading city of Australia that operated to make New York the leading city of the United States of North America, though Washington is the Federal capital, and Albany is the capital of the State of New York in which the city of New York is situated. The supremacy of Sydney was inevitable, on account of its situation on an arm of the sea which the first Governor of New South Wales, Captain Arthur Phillip, declared, with a wide experience of the ocean ports of the civilised globe, to be the finest harbour in the world.

Until the Blue Mountains had been crossed, Sydney was, for a quarter of a century, the gate of a territorial area which lay between the rivers Nepean and Hawkesbury and the broad expanse of the South Pacific Ocean. For many years after a route over the Blue Mountains had been found, Sydney remained the terminus of all sea-going craft, and it was the starting point of all roads traversing the practically illimitable hinterland.

In course of time it became the seat of all the Colony's manufacturing industries, and the base whence reticulated the entire railway system of the territory. For many decades after the arrival of the First Fleet it constituted the habitable area of New South Wales, and throughout its history it has ever held premier place among the cities of Australia. It is accounted the tenth in rank among the city-ports of the British Empire, a position which it has achieved within the short space of 130 years. Up to 1812 it contained about half the population of the continent, but it was not until the census of 1833 that any considerable increase in its population can, with certitude, be noted.

Suburban populations were enumerated, as distinct from the habitancy of the city, for the first time in 1846. Ten years subsequently the population of the suburbs was given as 15,815, and together with the City showed a total metropolitan population of 69,173, or of 27·4 per cent. of the total population of the Colony.

In the process of settlement, the first tendency was for the population to extend to the districts in immediate proximity to the city boundaries, afterwards along the course of the railway lines, and then to the areas made accessible by the construction of tramways. But this mode of settlement is not peculiar to Sydney, and applies with equal relevance to Melbourne and other Australian capitals. Indeed, there is no need to labour the explanation of the rapid growth of the capital cities of the Commonwealth. It is in the main due to the physical configuration of the Continent. The geographical characteristics of Australia have made no other mode of development possible.

There are here no great rivers with leagues of navigable water-way stretching into the heart of the country, far remote from the seaports. Communication with the world overseas began, as it has continued, with a good roadstead for shipping; and the young colonies had their beginnings on the sites whereon have grown the cities which in course of time developed into the

capitals of States and which, being also the chief or only ports of a vast hinterland, were of necessity the only channels through which immigrants from home and foreign lands could pass to the interior. In years when assisted immigration was an energetic Government policy, immigrants to the various States of the Commonwealth (prior to Federation, and when the States were called Colonies) lingered long in their ports of debarkation, and did not leave them while their means were unexhausted or while employment was procurable.

The native rural population has contributed but slightly to the growth of the metropolitan cities. The slow growth of an Australian rural population, as compared with the metropolitan, is not due to the desertion of the soil; but to the past predominance of a staple primary industry and to the accretion of vast estates in a few hands in the older settled districts. The city motto, "Go on the land," has long been a counsel of perfection. The land upon which to settle was for decades unavailable. Whenever agriculture has succeeded in its warfare against pastoralism, whenever pastoral lands have been thrown open to free selection, settlers from Victoria, as well as those of New South Wales, have invaded such unlocked areas in thousands. The lack has not been a lack of men willing to settle upon the land, but a lack of land upon which settlement could be effected. Land is, indeed, so sought after, that intending settlers are content to risk their chance of acquisition on the fortuitous motions of a marble, and to await their opportunity for a ballot during weary months, involving much pecuniary loss as well as waste of time and energy. The provision of land for future profitable settlement is one of the pressing problems of Australian statesmanship.

The foundation of all vast aggregations of people in cities, properly so called, is either commerce (inclusive of shipping and of all the machinery of exchange and distribution) or manufacturing industry. Sydney is not merely a port of debarkation for immigrants, it is not only a gigantic receiving-house, and an office of distribution and exchange between overseas nations and a far-stretching hinterland, it is the greatest manufacturing industrial centre on the Eastern seaboard of the Commonwealth.

In 1891 there were in New South Wales 2,583 manufacturing establishments employing 46,135 hands, but figures showing the distribution of the operatives in metropolitan and country districts are not available. In 1892 statistics relating to works and manufactures began systematically to be collected. The following table shows the growth of manufactures in New South Wales, and the distribution, as between metropolitan and country districts, of the establishments and the hands employed for the years 1892, 1901, and 1911 :—

District.			Establish- ments.	Males.	Females.	Total.
1892	{ Metropolitan ...	...	590	22,929	4,349	27,278
	{ Country ...	...	1,329	20,473	881	21,354
	Total ...	...	2,319	43,402	5,230	48,632
1901	{ Metropolitan ...	...	1,415	32,315	10,015	42,330
	{ Country ...	...	1,952	22,146	1,669	23,815
	Total ...	...	3,367	54,461	11,674	66,135
1911	{ Metropolitan ...	...	2,510	53,658	23,974	77,632
	{ Country ...	...	2,529	28,465	2,567	31,032
	Total ...	...	5,039	82,123	26,541	108,664

Wherever manufactures are established, population of necessity collects, an economic axiom which sufficiently accounts for the growth of Lithgow amid the coal and iron and lime deposits of the Blue Mountains, as it accounts also for the growth of Sydney, the State's central receiving-house for its raw material production. But Sydney is one of the most frequented pleasure resorts of the Commonwealth, and of places of call for visitors and tourists from overseas. It is, in addition, the State's chief hospital for treatment, asylum of refuge, campus of science, art and culture, centre of government and base of administration—legal, civic, and religious. In itself it combines the functions and discharges the duties of a dozen different centres in home and foreign lands.

The Division of the Central Tableland shows, side by side, the prospects of a future of progress in an area devoted to the acquisition of raw material and to its transformation into manufactured articles, and the decadence or dormancy of a long-settled district, in which freehold properties have gradually been acquired by a few holders of large estates. The county of Cook, with its primal production and mountain industrial manufactures, is rapidly approaching the population standard of the county of Bathurst, the first-settled district in transmontane country, and dating from the early days of Governor Macquarie.

In 1891 the county of Bathurst had a population exceeding that of the county of Cook by over 15,000, in 1911 the population of the former exceeded that of the latter by only 3,000, but the county of Bathurst had lost on its own population in 1901 nearly 2,000 inhabitants within ten years. The municipal town of Bathurst, like the county of the same name, had a population smaller in 1911 by nearly 600 persons than in 1891, while Lithgow, which in 1891 had over 5,000 fewer inhabitants than the town of Bathurst at the same date, in 1911 had approached within 379 of the older municipality's population.

Of the eight counties comprised in the Division, Cook, Wellington, and Westmoreland had increased, and Bathurst, Roxburgh, Phillip, Georgiana, and Bligh had decreased in population during the twenty years under review, Roxburgh during the first and the remainder during the second decade, but while the increase in population for the whole Division during the ten years 1901–11 was 10,043, that of the county of Cook alone was 10,229.

The municipal movement of population ran roughly parallel with the county movement. Lithgow and Katoomba in the county of Cook, Orange and East Orange partly in the county of Wellington, and the townships of Wellington and Mudgee wholly so, Cowra partly in Forbes in an adjoining Division, and Gulgong in the county of Phillip—all gained in population, though to varying extent, Bathurst, Blayney, and Carcoar in the county of Bathurst, and Cudgegong, partly in the counties of Phillip and Wellington, lost in population, and Hill End in the county of Wellington disappeared from the municipal list and became absorbed in the Shire of Turon.

On the other hand, the census of "Localities" for 1911 shows a number of unincorporated areas, the advancement in population of which appeared to be but little modified by their geographical location. In the county of Cook the shale-field of Newnes, the mountain resort of Leura, and the industrial centre of Mort's Estate, appeared as new names of places with substantial populations; Blackheath, Wentworth Falls, Springwood, Wallerawang, Lawson, Emu Plains, and Kurrajong were shown with varying degrees of increase; Hartley, Wilberforce, and Mount Victoria were presented as declining, and North Richmond disappeared altogether from the enumeration.

In the county of Bathurst, the village of South Bathurst similarly disappeared, but while the goldfields of Lucknow, Neville and Lewis Ponds were exhibited as stagnating or retrograding, Millthorpe and Woodstock were represented as increasingly populous and progressive. Rylstone, partly in the county of Phillip and partly in that of Roxburgh, was shown as gaining in population. Portland, the site of the cement manufacture, largely increased in the number of its inhabitants, but the other Roxburgh villages of Kelso, Wattle Flat, and Sunny Corner (the two last-named one-time goldfields), were on the decline.

In Westmoreland the silver-field of Yerranderie and the goldfield of Oberon shared the general increase of their county. In Bligh the village of Bodangora shared the general decrease of its county. Stuart Town in the county of Wellington, and Burruga in the county of Georgiana, were also declining in population. Generally speaking, the maintenance of the Division of the Central Tableland devolved upon the counties of Cook and Westmoreland in the south-west, and upon the county of Wellington in the west, the remainder of the area being stagnating or dormant.

In 1891 the Division of the Central Western Slope approximated nearly to that of the Division of the North-Western Slope in the number of its inhabitants, but its progress had been infinitely slower. At the date mentioned the difference between the two Divisions amounted to a little over 500, within the twenty-years' period under review it had grown to nearly 15,000, the increase of the North-Western Slope amounting to over 27,000, and that of the Central Western Slope to nearly 13,000. But despite the tardiness of progress, the Division generally had prospered throughout the twenty years 1891-1911, though the county of Gordon, after a considerable gain of inhabitants during the first decade, suffered a loss during the second, and the county of Napier, though it declined slightly during the first decade, amply recovered during the second.

The greatest gain was shown by the county of Gowen, third in respect of population and fourth in respect of density, which more than doubled its population in the twenty years under review. Of the five municipalities in the Division, one declined in population during the first decade and two during the second, and the habitancy of one (Dubbo) was less in 1911 than in 1891. The population shown in 1901 of Dubbo (outside the municipality) and Newtown (Dubbo), was representative of the nomadic workers engaged in constructing the railway line from that town to Coonamble. The usual rapid growth of "Localities" was shown for the Central Western Slope in the census of 1911, but the total increase of this type of population was slightly less than 125 per cent. on the total for 1901, which increase, as compared with that for other Divisions, was comparatively moderate.

The Division of the Central Plain made the least rapid increase of the Central Territorial Area, namely, 56·67 per cent. on the population of 1891 during the period of the twenty years under review, as against 96·58 per cent. for the North Central Plain, and 60·30 per cent. for the Riverina—the increase in population of the whole of the Central Area on the figures of 1891 being 63·9 per cent. During the first decade the North Central Plain made a gain of 42·6 per cent., the Riverina of 27·7 per cent., and the Central Area as a whole of 33·5 per cent.; while the gain of the Central Plain amounted to 39·6 per cent. During the second decade the whole of the Central Territorial Area advanced in population on the figures of 1901 by 22·8 per cent., the Division of the North Central Plain by 37·8 per cent., the Riverina by 25·5 per cent., and the Central Plain by 12·2 per cent. only.

The counties in the Division gained generally in population. Narromine, the most populous, made a considerable advance during the first decade, and stood practically still during the second. The counties of Gipps, Leichhardt, Cunningham, and Oxley all advanced in population during the twenty years, some of them more slowly than others, but the increases were small. The county of Ewenmar made considerable progress during the first but suffered a decline in the second decade. The county of Kennedy had the reversed experience, the county of Gregory remained almost stationary for the first ten years, and made a small progress in population during the second, the county of Canbelego decreased throughout the whole twenty years under review in the number of its inhabitants, and the small growth of the county of Flinders was little short of stagnation.

During the first decade the municipal population grew slowly, notwithstanding the fact that it received the increment (amounting to nearly 4,000) of four hitherto unincorporated localities which had been proclaimed municipal districts prior to the taking of the census of 1901, and it gained only a little over 1,000 during the next decade. The unincorporated population was increased during the first decade by the sum of the inhabitants of the new goldfield of West Wyalong, but lost by the incorporation of Brewarrina, Narromine, Peak Hill, and Warren, though the appearance of Gilgandra and Trangie as townships of urban status partially recompensed their withdrawal, and the new goldfield of McPhail replaced the declining one of Alectown. In the second decade the population of West Wyalong seems to have been included in the municipal district of Wyalong, but Trundle and Bogan Gate appear as new townships with the necessary urban status, and even allowing for over-statement of the population of Gilgandra, the increase of the unincorporated urban population for the decade was not excessive.

THE GROWTH OF POPULATION IN THE SOUTH.

The South Coast has been shown in a former part of this inquiry to have suffered depletion of its agricultural and dairy-farming population, of which a large proportion migrated to the newly unlocked lands of the Northern Rivers. This exodus of primary producers has been ascribed mainly to the inequitable conditions imposed on tenant farmers, a great portion of the South Coast being comprised in vast freehold estates, some of them original grants. Of the counties comprised in this Division, Camden is the most populous, and it is the only county of the four which has maintained its position. It has, however, done little more, notwithstanding the permanent character of its coalfields, nor can it be said that Camden has maintained its position at the expense of the other counties.

Although the municipal population of the South Coast gained nearly 1,000 during the last decade, fourteen municipalities declined greatly in habitancy, and several others barely maintained their position. Notwithstanding the fact that the census of "Localities" for 1911 showed an increase of considerably over 7,000 persons in the unincorporated population of the South Coast, old-established townships and villages like Major's Creek, Burragorang, Cambewarra, Kangaloon, Little River, Joadja, and Wolumla all fell below the status which gave them a place in the urban classification, and other hamlets and villages, such as Cobargo, Pambula, Kangaroo Valley, and Robertson, suffered decline or stagnation.

The Southern Tableland is another Division in which the toll was paid to a neighbour, but it certainly was not to the Central Tableland, though it may have been to the adjacent South-Western Slope or to the Riverina. The loss over the twenty years' period under review amounted to exactly 2,000

persons on the figures of 1891, and to 3,521 on those of 1901. That this depletion was fairly general may be seen from the following statement:—

County.	Decrease or Increase.		
	1891-1901.	1901-1911.	1891-1911.
Argyle	290	(-) 1,402	(-) 1,112
King	288	454	742
Murray	(-) 397	(-) 1,713	(-) 2,110
Wellesley	379	(-) 411	(-) 32
Beresford	372	(-) 163	209
Wallace	479	162	641
Cowley	110	() 448	(-) 533
Total	1,521	(-) 3,521	(-) 2,000

During the twenty years under review the chief town in the Division, Goulburn, lost 900 of its inhabitants, Yass stood practically still during the second decade, the small gains of Cooma, Queanbeyan, and Burrowa were negligible, and Bombala steadily declined. The municipal population as a whole actually decreased during the period 1891-1911. The unincorporated population showed a gain of nearly 5,000 for the twenty-years' period, or 3,000 for the first and nearly 2,000 for the second decade. One of these unincorporated townships was Kenmore near Goulburn, and its population, as already noted, was due to the establishment of an asylum for the treatment of the insane. The list included in 1911 Bungendore, Captain's Flat, and Taralga, which had all declined in population, and Delegate, which barely maintained its position. It is, moreover, highly improbable that a general movement of depopulation would be favourably mitigated exclusively in the interests of unincorporated townships and villages.

The Division of the South-Western Slope gained 38·6 per cent. on the population figures of 1891 during the twenty years under review, but the gain of the Central Western Slope amounted to 41·8 per cent., and that of the North-Western Slope to 85·8 per cent. The rate of increase for the Territorial Area of the Western Declivity was 69·0 per cent. for the period 1891-1911. The entire Division of the South-Western Slope made progress in population, but some counties forged ahead more persistently than others. In 1891, for instance, the county of Goulburn was ahead of the county of Montegale, but in 1911 the latter held first place. The county of Buccleuch was a tardy gainer throughout the twenty-years' period, and the county of Selwyn stood practically still during the second decade.

The population of the municipalities increased methodically, but Gundagai and Wyalong both experienced a set-back in the second decade. The unincorporated population appeared to be overstated. The increases in the case of Adelong, Grenfell (outside the municipality), Holbrook (late Germanton), and Tumbarumba were not abnormal, but the census of "Localities" for 1911 included eight townships or villages which had not, prior to that date, appeared in any census as urban centres. The increased population of unincorporated localities amounted to 6,593 for the period 1901-11, for that of 1891-1901 it was only 1,892.

The Division of the Riverina made a gain in population for the twenty years under review of 60·3 per cent., or 27·7 per cent. for the first and 25·5 per cent. for the second decade. This was due largely to the invasion of the Division by free selectors, who flocked to the newly-opened lands, not only from other parts of New South Wales, but from the southern States of Victoria and South Australia. The invasion was not, however, general. Some counties, more adapted to the pastoral than to the agricultural industry,

declined in population, or made but slight progress, or simply stood still. The counties of Bourke, Hume, Urana, Cooper, Mitchell, Denison, Wakool and Cadell advanced, the county of Townsend stagnated, the county of Caira made negligible progress, the counties of Waradgery, Nicholson, Boyd, Sturt and Dowling retrograded.

Some municipal townships progressed, others decayed. The newly-proclaimed municipal district of Corowa was one of the former, Narrandera did not absolutely retrograde, but Deniliquin, Hay, Moama, Balranald, Jerilderie, and Hillston all exhibited symptoms of a decline in population and prosperity. Corowa was included among the unincorporated townships at the census enumerations of 1891 and 1901. The increased populations of Berrigan, Ganmain and Henty for the period 1901-1911 was approximately 100 per cent., but fifteen newly qualified townships were included in the census of localities for 1911, and the increased population for the second decade appeared as over 11,000, for the first decade it was 2,452 only.

THE INCORPORATED AREA OF THE STATE.

The population of the incorporated area of New South Wales in the Northern, Central and Southern geographical belts of settlement is shown in the table below:—

Division.	Area in square miles.	Population.			Persons per square mile.		
		1891.	1901.	1911.	1891.	1901.	1911.
Northern—							
The Coast	8,452	49,175	63,920	£6,942	5·82	7·56	11·47
The Tableland	13,950	41,438	46,078	54,181	2·97	3·35	3·88
The Slope	15,335	31,663	43,419	58,844	2·06	2·18	3·84
The North Central Plain ..	15,674	8,737	12,469	17,175	0·56	0·79	1·10
Total	53,411	131,013	166,476	227,142	2·45	3·12	4·25
Central—							
Hunter and Manning Rivers ..	18,236	136,814	155,094	191,915	8·43	9·59	11·32
Metropolitan	1,672	447,014	563,383	720,706	267·20	336·73	430·77
The Tableland	14,045	89,815	101,186	111,229	6·39	7·20	7·92
The Slope	9,770	31,019	38,648	43,968	3·17	3·96	4·50
The Central Plain	27,473	21,396	29,871	33,524	0·78	1·08	1·22
Total	69,202	726,058	888,782	1,101,342	10·49	12·84	15·91
Southern—							
The Coast	8,569	69,758	72,745	70,718	8·14	8·49	8·25
The Tableland	12,365	49,618	51,139	47,618	4·01	4·14	3·85
The Slope	12,791	55,646	66,298	77,140	4·35	5·18	6·03
Riverina	32,481	36,186	46,203	58,006	1·11	1·42	1·79
Total	66,206	211,208	236,390	253,482	3·19	3·57	3·83
Western—							
Unincorporated Plains of the West	121,548	49,971	55,072	56,612	0·41	0·45	0·47
<i>Summary.</i>							
The Northern Belt	53,411	131,013	166,476	227,142	2·45	3·12	4·25
The Central Belt	69,202	726,058	888,782	1,101,342	10·49	12·84	15·91
The Southern Belt	66,206	211,208	236,390	253,482	3·19	3·57	3·83
The Western Division	188,819	1,068,279	1,291,618	1,581,966	5·66	6·89	8·38
	121,548	49,971	55,072	56,612	0·41	0·45	0·47
	*310,367	1,118,250	1,346,720	1,638,578	3·60	4·34	5·28
Federal Capital Territory ..	(928)	1,714	..	..	..	..	1·85
Lord Howe Island	5	55	100	105	11·00	20·00	21·00
Shipping .. .. .	..	5,649	8,026	8,051	..	..	..
Total, New South Wales ..	310,372	1,123,954	1,354,846	1,648,448	3·60	4·34	5·31

* Includes the area of the Federal Capital Territory.

THE GROWTH OF POPULATION IN THE WEST.

Apart from the copper-workings and goldfields east of the Darling River, and the silver and precious-opal deposits west of that stream, the movement of population in the Western Division had a tendency to gradual abandonment. But the development of these mineral fields of the West had been attended by a remarkable movement of a non-mining population following occupations secondary and subsidiary to primary production.

The municipal districts of Cobar and Wrightville and the unincorporated township of Canbelego, in the county of Robinson, and the municipal district of Broken Hill, in the county of Yancowinna, depend absolutely for their continuance, as centres of population on the present scale, upon such precarious factors as permanence of lodes from which the mineral can be profitably extracted, permanence of water-supply and other conditions of working, continuance of demand in the world's markets, and maintenance of a remunerative price. The failure of any one of these different factors might mean the practical disappearance of these quasi-urban centres, as it meant the practical disappearance of Silverton, Hill End, and many other seemingly stable places which depended wholly on the profitable acquisition of mineral wealth.

But these mines have been worked so far remote from the conveniences, the comforts and pleasures of a civilised existence, and they were established on so vast a plan, that a large non-mining population has found it advantageous to settle around them for the purpose of deriving a livelihood by ministering to the well-being, pleasure and amusement of those whose primary pursuit it is to delve underground for mineral wealth. Thus, Broken Hill, technically a "city," is essentially a mining encampment with an urban attachment.

From the case of Broken Hill therefore might be deduced an approximation of the number of persons of secondary and subsidiary callings required in association with any given number of primary producers, though it must be postulated in advance that an aggregation of human beings, such as that at Broken Hill, must include a greater number of persons belonging to the purely amusement-providing and peripatetic sub-orders than are reasonably necessary. On the other hand, it would be illogical to presume that there were more persons belonging to the industrial, commercial, transport and communication, and domestic classes than were required by the community.

The county of Robinson contained a population of 8,366, of which total 3,844 persons of both sexes were breadwinners, and of the breadwinners 2,303 were primary producers. The latter, with their dependent families and the female domestics domiciled with them, were computed to number 5,238 persons, hence the remainder of the population of all classes, with their proportionate number of dependents and female domestics, represented 3,128 persons, or 37·4 per cent. of the population of the county of Robinson. The primary producers included, besides 2,147 persons engaged in mining, 40 persons engaged in agriculture, 99 in pastoral pursuits, 9 in the conservation and supply of water, 7 in forestry, and 1 in hunting and trapping. But the county was so predominantly devoted to mining, that the demands of the remaining primary producers upon the secondary services of persons of other occupations was negligible.

The county of Yancowinna, in which is situated the municipality of Broken Hill, contained in 1911 a population of 32,078, of which number only 1,106 persons were enumerated as outside the municipality, and these probably included a considerable proportion of miners. The breadwinners in this county numbered 14,606 persons of both sexes, including 8,288 primary producers. The latter, with their dependent families and the female domestics domiciled with them, were computed to number 18,821 persons, or 58·67 per cent. of the population of the county of Yancowinna, and the ministering or supplementary population, 41·33 per cent.

The primary producers included, besides 7,972 persons engaged in mining, 201 persons engaged in pastoral pursuits, 63 in agriculture, 46 in water conservation and supply, 4 in hunting and trapping, and 2 in forestry; but these, with their dependent families and the female domestics domiciled with them, would number less than 700 persons, and would modify the result

but imperceptibly. In making the parallel comparison between the counties of Robinson and Yancowinna, it must be remembered that the larger the aggregation of human beings within stated boundaries the greater would be the number representing the entertaining and parasitic portion of the community. The county of Robinson contained several of these mining-centres at varying distances, but in the county of Yancowinna the mining population was concentrated at Broken Hill.

ANOMALIES OF ENUMERATION.

Many municipalities have been classed as urban centres which were properly incorporated agricultural districts, as an examination of their density of population in persons per acre has amply exhibited, and aggregations of people engaged in the labour of primary production underground no more constitute urban populations than do those engaged in primary production on its surface within measured boundaries. The incorporation of half the State under the recent Local Government and Shires Acts makes a new definition of the word "urban" imperative. It is a matter of the greatest difficulty to differentiate between mining areas as such, and mining-centres situated in the heart of a mining region, and furnished with the requisite administrative, commercial and social services and conveniences that entitle them to distinctive urban recognition, but it is desirable, even in these cases, to exclude from the purely urban population persons classified in so fundamental a primary-producing occupation as mining.

In the enumeration of other branches of primary production an anomaly is to be remarked as affecting female labour throughout the State, namely, the census of 1911 classes a great number of females as dependents on natural guardians, whom the police returns of New South Wales, collected just prior to the taking of the census, recorded as primary producers. The number of women employed in agriculture and dairying pursuits varies with the time of the year. According to the census returns 4,901 females were employed in primary production, but according to the police returns the number was 24,632. The difference, 19,731, represents women partly employed in domestic duties and partly in primary industries. They were probably relatives of the farmers, and appear in the census as engaged in domestic duties and, therefore, as dependents.

PRIMARY PRODUCTION AND SETTLEMENT.

Primary production has been an important factor in the settlement and development of Australia, though the British colony at Sydney Cove was not in the first place established with a view of exploiting the natural resources of the Continent. For many years it was, indeed, dependent for its food on oversea supplies, and was often reduced to the verge of famine. The first essay in primary production was in the whale and seal fisheries, so-called, which were for a number of years of a highly profitable nature. The discovery of coal by Lieutenant Shortland at the Hunter River, while searching for runaway convicts, and near what is now Clifton by the shipwrecked crew of the "Sydney Cove," near the termination of their long coastal march to the settlement, created an oversea trade with India.

The next form of primary production was timber-getting, and a trade in timber sprang up between the settlement and India and the Cape of Good Hope. Sheep-breeding and the growing of fine wool, as the result of the experiments of Macarthur, Marsden, and others, were early introduced, and ultimately grew into staple industrial pursuits. At the time of the gold discoveries in the early fifties, Australia was almost wholly pastoral, and until the great commercial crisis of 1843-4, the growing of wool was highly profitable. The decline in the value of sheep led to a new enterprise, namely the boiling-down of the carcase for its tallow, and later to meat-canning.

The sheep played a very important part in the development of the hinterland. Very few exploratory expeditions were undertaken from purely scientific reasons. The passage of the Blue Mountains in 1813 was the outcome of successive endeavours to enlarge the Colony's grazing-grounds. Explorers went forth in search of "new country," and though science benefited from their enterprise, the prompting was commercial and utilitarian.

Cattle-breeding received its greatest impetus from the invasion of the mining population, and the growing demand of the gold-diggers for fresh meat. The discovery of gold revolutionized all the existing conditions of settlement, and introduced a form of primary production which had a seriously dislocating influence on the social constitution of the Colony.

Agriculture, properly so called, though early introduced, long languished, but was considerably revived with the expenditure of the energy which attended the quest for gold. During recent years agriculture has invaded regions formerly occupied almost wholly by pastoralism, and in some districts it threatens the supremacy of that pursuit.

A somewhat vagrant form of primary production grew a few years ago out of the rabbit-pest, and it was found to be more profitable to trap these despoilers of the sheep-runs for food and to export their carcasses to oversea markets than to poison them.

The war in Europe has had the effect of stimulating to greater activity the manufacturing industries of the State—generally the last step in a nation's industrial progress. Great Britain is almost entirely a manufacturing country.

The United States of America constitute a great manufacturing country, but unlike Great Britain it produces the larger part of the raw material which it converts into manufactured commodities.

The latest stage in industrial development in a world-sense is the erection of machinery in the close vicinity of the acquisition of primary products, especially in Eastern countries, in order to take the fullest advantage of native labour, which is proverbially cheap. This practice may in the future have a great effect in the development of Australia's manufacturing industries which are, at present, practically in their infancy.

The nature of the primary production of any particular district has always been in newly-settled countries, such as America, South Africa, and Australia, the compelling factor in the creation of townships and villages, and has determined their importance, their size, and their permanence. The centre of a pastoral terrain was usually isolated, and at a great distance from any similar aggregation of human beings. As a rule it was more important than an agricultural township, more luxurious, and better fitted to minister to the amenities of social existence, for its patrons and customers were the wool kings of a pastoral age, which the western hinterland will probably never again experience. The leading hotels of a township in a squatting district were often built and furnished on a palatial scale, and the general stores and tradespeople's shops found it profitable to stock goods of a vogue almost metropolitan.

The centre of an agricultural district was on a humbler scale. Its hotel was less comfortable and more a matter of emergency; its general store was stocked with things of utility and necessity rather than with objects of luxury and ostentation, and the core of its usefulness was to be found in the blacksmith and wheelwright's shop instead of in the building devoted to the requirements of the pastoralists' club.

The centre of a mining region was widely different from the pastoral township or the agricultural village. Its most modernly attractive place of resort was its drinking bar, and there were usually more than one, and probably about a dozen, of these in a really prosperous mining camp. Most pastoral and agricultural townships laid out an area of ground as a racecourse, after

some years of existence; and a church or churches came as a matter of course, and a school of arts, the assembly hall of which could be used for the district's annual ball. The mining-camp began its career with the drinking-bar, the dancing-saloon, and the racecourse, and probably with places more questionable in their character and influence.

The mining-camp achieved a magnitude within a month, together with an ostentation of civic importance, which was a matter of years of half-somnolent existence to an agricultural or a pastoral centre. But the existence of the mining-camp was often brief, and its end was sometimes tragically swift. The experience of Silverton was that of many a mining township in Australia since the "Roaring Days of the Fifties," and only repeats the history of dozens of the "cities" of the Pacific Slope. Pastoral townships, that have outlived the industry which gave them life, die slowly. The agricultural township is longer-lived, because its mode of existence is conducted on a more circumscribed scale, and its decline is not encumbered with the useless adjuncts of a former condition of ostentatious affluence.

The importance of a township depends upon its situation. Ten huts and a public house with a barn for dancing is a city of the plains "Out West." Moreover, these places have no boundaries, for a post-office will confer an area of residence measured only by the endurance of a horse from circumference to centre along lines of illimitable radii. The area of a township in the mountains is bounded only by the first difficult ridge; on the plains, its limits reach to the visible horizon. It is, therefore, not at all surprising that a "Locality" becomes a very indeterminate thing in Australia, and that the idea of what constitutes a "town" is magnified by local conditions similar to that which creates the mirage. Unfortunately, this tendency to residential inexactitude inflicts a positive wrong on a most important section of the people, namely, the primary producers, who constitute the overwhelming bulk of Australia's rural population.

PRIMARY PRODUCTION ESSENTIALLY RURAL.

It will now be evident that the idea of the excessively urban character of Australian settlement was based on incorrect premises and the assumption that there was a chronic condition of huddling of Australian people in towns and cities has been created entirely by a misconception of loosely-applied terminology. The census enumeration of 1891 showed a total rural population of 378,099 persons, equivalent to the "Population of the Remainder of the State," after deducting the population of all municipalities and of townships and villages of 500 inhabitants and upwards—though, in the compilation of the last-mentioned, the Statistician is careful to append a note to the effect that many "Localities," specified in a preceding table, had been "regarded as rural, they being essentially pastoral or agricultural." Elsewhere, the Statistician excluded certain mining areas from the urban population of 1891, and indicated the fact in a footnote, emphasising the unstable nature of such localities by the remark, "Mining centres show the greatest variations in population from census to census."

As a rural population is essentially a population of primary producers, their wives, their children, and other members of their families, together with the domestics domiciled with them, a calculation of the number of all these people, based on the census enumeration of occupations, should result in a total approximate to, but less than the total of, the census figures showing the rural population deduced from a consideration of municipalities and towns of 500 inhabitants and upwards, on account of persons of secondary and subsidiary occupations operating in rural localities, auxiliary to primary production, and rendering it profitable and possible.

The total rural population in 1891, based on the number of primary producers in each of the fourteen Divisions, was 355,268, a number which fell short of

that shown by the census figures deduced from the totals given for urban and rural elements by 22,831, equivalent to a little over 6 per cent. of the rural population given by the census—a number which might be taken as representative of the persons of secondary and subsidiary occupations engaged in assisting primary producers or ministering to their various wants in country districts. But the number or proportion of such secondary and subsidiary assistants cannot be determined, as it varies with the nature of the district in which they are employed, and with the conditions of settlement. It is peculiarly difficult to establish a constant in this relationship.

THE RURAL POPULATION ACCORDING TO DIVISIONS.

In most of the Divisions of New South Wales, as well as for the whole State, the census figures recording the rural population in 1891 were higher than those showing the rural population as calculated on a basis of primary producers. There were a few exceptions, notably in the Metropolitan Division, in the coal-mining Divisions of the Hunter and Manning Rivers and the South Coast, and in the subdivision of the Plains West of the Darling River (Western Division), which included the silver-fields of Broken Hill.

This was to be expected because, as regarded the Metropolitan Division particularly, a number of municipalities were essentially agricultural districts devoted to small or intensive farming, and this applied with considerable cogency also to the Division of the South Coast, but there, instead of small or intensive farming, the municipalities, which were intrinsically incorporated pasturages, were devoted to cattle-grazing, milk production, and the secondary and subsidiary industries of butter and cheese making, and the curing of bacon and hams. Besides which, however, the South Coast owed an understatement of its rural population to the classification as town-dwellers of practically the whole of its coal-miners. This classification is responsible, and for a like reason, for the comparatively small proportion of coal-miners in the rural population of the primary producers of the Division of the Hunter and the Manning Rivers.

The Metropolitan Division in 1891 had 18,467 more primary producers, their dependents and domestics, than the rural population shown by the census statement, deduced from the totals given for urban and rural elements. This result is attributable mainly to the practice of regarding all municipalities (without reference to the extent of their areas, or to the density of persons per acre) as urban centres.

The census figures of rural population, deduced from the totals given for urban and rural elements in the case of the Division of the North Coast, were 10,416, or 49·06 per cent., in excess of the rural population based on the total number of primary producers.

The Division of the Hunter and the Manning Rivers, however, as might have been anticipated from its predominant industry of coal-mining, fell short in the census statement of the rural population as based on the number of primary producers, but only to the extent of 761 persons. The unincorporated coalfields comprised in 1891 the two townships of West Wallsend and Minmi, and the combined population was 3,152 persons, with few exceptions all miners and their families. The bulk of the mining community was, however, resident within the Newcastle group of municipalities, the only distinctively coal-fields' municipality in the remainder of the county of Northumberland being Greta.

With regard to the Division of the South Coast, the difference between the rural population as shown by the census, and the number of primary producers with their families and dependents was high, the shortage of the former amounting to 8,810. This understatement of the rural population of the South Coast in 1891 on the part of the census is due to three causes: first, the classification of the entire population of Bulli and Woonona, which is

essentially mining, as urban; secondly, to the inclusion of gold-mining areas, as Major's Creek and Little River, and an oil-shale working, Joadja Creek, as urban; and thirdly, to the fact that of the twenty municipalities enumerated at the census of 1891, two only (Wollongong and Kiama) had a population density of one person or upwards to the acre.

In the whole of the Coastal Belt, the shortage of the census population as compared with that founded on the number of primary producers and their families and dependents amounted to 17,622, but there was a census surplus over primary producers of 845 persons on the Coast exclusive of the Metropolitan Division.

The census enumeration of the rural population in the Tableland, the Western Declivity, and the Central Plains and Riverina was throughout in excess of the rural population based on the number of primary producers, and their proportionate number of dependents and assisting domestics domiciled with them.

The excess of the census figures in 1891 for the rural population of the subsection of the Western Division comprised in the Plains East of the Darling River, over that calculated on the base of the number of the primary producers in the subsection was 1,671, or 24.63 per cent., but the Plains West of the Darling River showed a deficiency in the rural population of the census as compared with that based on the number of primary producers in the subdivision, which amounted to 5,359 persons, or a deficiency on the whole Division of 3,688 persons. This deficiency was due to the inclusion of all persons operating in mining areas within municipalities as residents in urban centres, and this applies also to the unincorporated copper-fields of Canbelego and Nymagee, and to the unincorporated opal-fields of White Cliffs.

At the census of 1901, the deficiency in the census figures representative of the rural population in the Metropolitan Division, as compared with that based on the number of primary producers therein, had increased from 18,467 persons to 18,942—a result due to the cause already detailed, *i.e.*, the practice of classifying all municipalities as urban areas, irrespective of size, or of density of population of persons per acre.

The figures of the rural population of the North Coast, as given by the census of 1901, were in excess of those based on the number of primary producers in the Division by 6,170 persons, or 19.08 per cent. The Territorial Area of the Coastal Belt as a whole showed a deficiency in the census total of rural population, as compared with that based on the number of primary producers, of 22,730, and the Coast ex the metropolitan county of Cumberland a deficiency of 4,566. The deficiency of the Division of the Hunter and the Manning Rivers amounted to 3,833, and that of the South Coast to 6,903 persons.

The Division of the Hunter and the Manning Rivers at the census of 1901 had, besides the Newcastle group of municipalities and the municipality of Greta, together with the unincorporated townships or coalfields of West Wallsend and Minmi as in 1891, such newly-classed urban centres as Branxton, Teralba, Cardiff, Dudley, Charlestown, Hexham and Catherine Hill Bay, all of which, if not actual colliery sites, were in the immediate neighbourhood of collieries, and were places of residence of a mining population. All these localities were classed as urban, and necessarily absorbed from classification as rural workers the whole of those primary producers engaged in winning coal, together with their dependent families and the female domestics domiciled with them.

Of the municipalities of the South Coast, one only, Wollongong, had a density of over one person to the acre. Kiama in 1891 had a density of one person to the acre, but in 1901 this had fallen to 0.77, and in 1911 it

fell to 0·69. Other municipalities similarly declined in density of population, though the decline was not general. Nevertheless, the actual rural character of the municipalities of the South Coast was in no sense modified, but the most densely populated municipality, *i.e.*, Wollongong, was a port as well as a coal-mining centre. In 1901 Araluen, Pambula and Major's Creek, three gold-mining areas, and Woonona and Bulli coalfields assisted in swelling the urban population of the Division, although the predominant pursuits of these places were distinctively those of primary production. The rural population of the South Coast was greatly understated by the census of 1901.

The rural population of the Tableland, of the Western Declivity, and of the Central Plains and Riverina, all exhibited in 1901 an excess according to the figures supplied by the census, as compared with that based on the number of primary producers in the Territorial Areas.

The Western Division showed a deficiency both for the Plains East of the Darling River and for the Plains West of that stream. This was due to the growth of the copper-producing municipalities of Cobar and Wrightville and of the incorporated copper-field of Canbelego, in the first subdivision, and of the continued advancement of the silver-field of Broken Hill in the second subdivision. These places, though dependent absolutely on the prosperity of the primary pursuit of mining, were classed as urban centres, and were accredited with the entire mining population as an urban population, a condition of classification applicable also to the unincorporated opal-fields of Wallungulla (Lightning Ridge) and White Cliffs. For New South Wales as a whole, the deficiency of the rural population in 1901, as shown by the figures supplied by the census as compared with the total rural population based on the number of primary producers in the various Divisions of the State, amounted to 17,143 persons.

All the Territorial Areas with the exception of the Tableland, and all the Divisions with the exception of the Central and Southern Tablelands and the North-Central Plain, exhibited deficiencies in the rural population as presented by the census figures of 1911, and as calculated on the number of primary producers in the Territorial Areas. For New South Wales as a whole, these deficiencies amounted to 76,387 persons. The excess of the rural population as supplied by the figures of the census, over that calculated on the number of primary producers in the Central Tableland was 2,804, or 6·25 per cent., that of the Southern Tableland 3,030, or 15·02 per cent., that of the Territorial Area of the Tableland as a whole 4,638, or 4·98 per cent., and that of the North-Central Plain 272, or 2·92 per cent.

At the census of 1911, the deficiency in the census figures representative of the rural population in the Metropolitan Division, as compared with that based on primary producers, had increased from 19,164 to 27,119. Included in the metropolitan municipal suburbs of 1911 were three municipalities with population densities ranging from 0·33 to 0·97 persons per acre, containing a population of 12,782 persons distributed over 16,791 acres, equal to 0·76 persons to the acre. Three municipalities, classed in the same category in 1901, had meanwhile achieved a population standard of one person per acre. These three municipalities were situated in the Metropolitan Area proper, but there were besides fifteen other municipalities in the county of Cumberland with population densities ranging from 0·02 to 0·84, with a combined population of 30,114 persons, distributed over 245,558 acres, and having an average density of 0·12 persons per acre. In 1911 the metropolitan county contained altogether a total area of 262,349 acres, incorporated in eighteen municipalities with population densities ranging from 0·03 to 0·97 persons to the acre, and these municipalities contained rural populations of primary producers which have always been classed as urban, owing to the lack of an adequate definition of what constitutes an urban centre.

The census deficiency shown in the rural population of the North Coast in 1911, as compared with that calculated on the number of primary producers in the Division, amounted to 4,159, whereas there should have been a substantial excess, on account of the considerable migratory impetus from the Division of the South Coast given to dairy-farming and agriculture. Since the preceding census it appeared, however, from the list of "Localities" otherwise undefined, that the population of unincorporated townships and villages had increased by nearly 244 per cent. on the figures of 1901. There is no method by which this total increase can be checked, but it is obviously an overstatement.

With respect to the Division of the Hunter and the Manning Rivers, the deficiency amounted to 10,793. A certain deficiency was expected, in view of the fact that the mining populations of the coalfields are assumed to be in every respect equivalent to urban centres if they are (1) incorporated as municipalities, or (2) contain 500 inhabitants and upwards. The increase of the population of "Localities" otherwise undefined, for the ten years ending 1911, is however stated as being as high as 238 per cent. on the figures of the preceding census.

The census deficiency in the South Coast amounted to 11,428. The twenty municipalities of the Division, during the decade 1901-11, practically stood still, their small increment amounting only to 891 persons, and it has been shown already that these incorporated areas were essentially pastoral and agricultural districts. Five municipalities increased their total population to some slight extent, and of these the port and coalfields' centre of Wollongong advanced in density from 1.85 to 2.43 persons per acre. Five municipalities stood still, and ten retrograded. But, concurrently, the census of "Localities" otherwise undefined for 1911 showed an increase of the unincorporated urban population of townships and villages, on the figures of 1901, equivalent to a rate of nearly 112 per cent., albeit the Division as a whole had declined in population during the same period by over 2,000 persons. The deficiency for the decade throughout the whole of the Coastal Belt amounted to 53,942, and for the Coast, ex the metropolitan county of Cumberland, to 26,380.

For the Territorial Area of the Tableland there was an excess, the result of surplus rural populations, over figures based on the number of primary producers, in both the Central and Southern Divisions, but there was a deficiency in the Northern Tableland of 1,196, which appeared to some extent to be due to the classification as urban of mining populations aggregated in municipalities, and in a few unincorporated tin-working, goldfields, etc.

The census deficiency in the rural population of the Western Declivity was 2,920, that for the Division of the North-Western Slope 869, that for the Division of the Central Western Slope 578, and that for the Division of the South-Western Slope 1,446. The municipalities of the North-Western Slope, to a considerable extent incorporated agricultural districts, but all classed as urban, without losing their partially rural character, had greatly increased in populousness during the decade 1901-11, and the "Localities" otherwise undefined, had during the same period increased, according to the census of 1911, by 146 per cent. The increased population of the municipalities in the Division of the Central-Western Slope amounted for the decade to about 1,000, but the census of "Localities" for 1911 indicated an increase in the population of unincorporated townships and villages (including some goldfields' areas and the railway camp at Dubbo), which amounted to over 124 per cent. The Division of the South-Western Slope not only showed a considerable advance on its municipal population, which though largely rural, and comprising a fair proportion of primary producers, was all classed as urban, but the census of "Localities" otherwise undefined for

1911 showed an increase in unincorporated townships and villages, some of them goldfields areas, which amounted to 259 per cent.

With the exception of the Division of the North Central Plain, the whole Territorial Area of the Central Plains and Riverina exhibited a deficiency, amounting to 3,902 persons, in the rural population, according to the figures of the census of 1911, as compared with those calculated on the number of primary producers in the Territorial Area. The deficiency of the Central Plain was only 591, and is attributable to the inclusion of pastoral and agricultural workers in municipalities and unincorporated areas as portion of the populations of urban centres. The deficiency in the rural population of the Riverina was, according to the figures supplied by the census, as high as 3,583. It is to be noted that although a certain proportion of rural occupation was never separable from the municipal population of the Riverina, the great apparent decrease in the rural element, as compared with that calculated on the number of primary producers in the Division, was due to the increase in population of "Localities," otherwise undefined, which according to the census of 1911 amounted to over 307 per cent. on the figures of 1901.

The census deficiency of rural population in the Western Division amounted to 20,674, or to 3,184 for the Plains East of the Darling River, and to 17,490 for the Plains West of the Darling River; and was to be accounted for by the absolute inclusion of the whole of the populations of the copper-fields of the former, and of the silver and opal fields of the latter, either in municipal areas or in so-called unincorporated towns of 500 inhabitants and upwards.

CLASSIFICATION OF URBAN CENTRES.

From the foregoing it will be seen that the low rural population in the metropolitan county of Cumberland, and in the Division of the South Coast, was due to the inclusion of certain municipalities as urban centres which were entitled to be considered only as agricultural districts. There were also a number of so-called unincorporated towns which were merely agricultural, pastoral, and mining centres, but which, through vagueness of definition, had been classified incorrectly.

Railway camps have been included as townships or villages, as in the case of Heathcote and Dubbo; asylums for the aged and insane, as Newington and Kenmore; gold-fields, as Grenfell (outside the municipality), Little River, Swamp Oak, Alectown, McPhail, etc.; a private industrial enterprise, as Mort's Estate; oil-fields, as Joadja Creek and Newnes; coalfields lacking township centres, as Aberdare, Abermain, Pelaw Main, Mount Keira, etc.

On the other hand, if it could be done without introducing confusion into the classification, it would be more satisfactory to accept as urban centres the townships of Dapto and Unanderra instead of the municipality of Central Illawarra, the incorporated pastoral district in which they are situated. In this connection it is to be wished that the density of an urban municipality had been defined in order to distinguish such from municipal districts which were merely incorporated areas devoted to agricultural, pastoral, and mining energies and interests.

The comparison instituted between the results of the three census enumerations of 1891, 1901, and 1911, make it possible to follow the development of the population of the State, and the movement of settlement in Territorial Areas, Divisions, and Counties, to ascertain correctly the increase or decline of municipalities in population and prosperity; and making due allowance for the intrusion of the mining element in certain Divisions, and for the element of petty tillage, etc., in the metropolitan county of Cumberland, to gauge the advance of population in unincorporated townships and villages for the census enumerations of 1891 and 1901. Unfortunately, information concerning the population of similar areas in 1911 is confusing.

LAW COURTS

IN New South Wales legal processes may be grouped within the original jurisdiction of the Lower or Magistrates' Courts, or of the Higher Courts presided over by appointed Judges. The subject of appellate jurisdiction will be discussed separately.

ORIGINAL JURISDICTION—LOWER COURTS.

The Lower or Magistrates' Courts include Petty Sessions, Small Debts, Licensing, and Children's Courts.

All persons arrested and charged with offences at the various Police stations—also all summoned persons—must be brought before the Magistrates' Courts to answer charges, indictable or summary, or complaints of any nature; and are either dealt with summarily, or committed to take their trial at the Court of Quarter Sessions, or at the Supreme Court in its criminal jurisdiction. Persons may also be committed to take their trial at such higher Courts by a Coroner or by a Judge.

Certain indictable offences (larceny, stealing from the person, embezzlement, &c.) are punishable summarily by Magistrates—by consent of the accused person—if the subject matter of the charge, or value of the property involved, does not amount to £20. Persons convicted by the Magistrates under such circumstances are liable to imprisonment for six months, or to a fine of £20. The period of imprisonment that may be awarded by Magistrates for purely summary offences is fixed in each case by Statute; in some cases sentences up to two years may be imposed. Most summary offences are punishable by fine, or by imprisonment, not exceeding seven days, in default of payment, where the amount of fine and costs does not exceed 10s., and not exceeding twelve months, where the amount payable exceeds £100.

Where a person is committed to be imprisoned, and is then undergoing imprisonment for another offence, the Magistrate may order that the sentence for the subsequent offence shall commence at the termination of the period the person is then serving. Justices have no power to impose more than one sentence of imprisonment to commence at the expiration of the first sentence.

By the Small Debts Recovery Act, 1912, the jurisdiction of Magistrates' Courts is extended to include action for the recovery of a debt or liquidated demand not exceeding £30, or where the Court is constituted by a Stipendiary or Police Magistrate sitting in some place appointed in that behalf by the Governor, to an amount not exceeding £50, whether on balance of account or after admitted set-off or otherwise.

COURTS OF PETTY SESSIONS.

Courts of Petty Sessions are held by Stipendiary Magistrates in the Sydney, Parramatta, Newcastle, Broken Hill, Bathurst, and Wollongong districts, and in other districts by Police Magistrates, or Justices of the Peace, the latter being honorary officers.

The total number of offences charged at all Courts of Petty Sessions and Children's Courts during the last five years, are shown in the following table :—

Courts.	1911.	1912.	1913.	1914.	1915.
Courts of Petty Sessions ...	72,709	87,082	89,469	92,289	83,228
Children's Courts ...	2,405	2,869	2,638	2,477	3,348
All Magistrates' Courts ...	75,114	89,951	92,107	94,766	86,576

The following table summarises the operations of these Courts for 1915 :—

Procedure.	Charged before Magistrates.	Treated summarily.			Committed to higher Courts.
		Convicted.	Withdrawn or Discharged.	Total.	
By arrest... ..	48,322	42,931	3,953	46,884	1,438
By summons	38,254	30,317	7,805	38,122	132
Total	86,576	73,248	11,758	85,006	1,570

The cases (1,570) committed to higher Courts represent 1·8 per cent. of the total charges ; the remainder, representing 98·2 per cent., were summarily treated, convictions resulting from 84·6 per cent. of the charges. A division of accused persons, according to sexes, shows that the charges against females numbered 9,170, being only 10·6 per cent. of the total :—

Sex.	Charged before Magistrates.	Treated summarily.			Committed to higher Courts.
		Convicted.	Withdrawn or Discharged.	Total.	
Males	77,406	65,675	10,254	75,929	1,477
Females	9,170	7,573	1,504	9,077	93
Total	86,576	73,248	11,758	85,006	1,570

The following table shows the proportion of summary convictions by Magistrates, of acquittals and discharges, and the committals to higher Courts at decennial intervals since 1870 :—

Year.	Summary Convictions.	Acquittals and Discharges.	Committals to higher Courts.
	per cent.	per cent.	per cent.
1870	69·0	24·7	6·3
1880	76·9	18·4	4·7
1890	80·4	16·0	3·6
1900	83·1	14·9	2·0
1910	86·1	12·3	1·6
1911	86·6	11·8	1·6
1912	86·3	12·0	1·7
1913	85·8	12·5	1·7
1914	85·7	12·5	1·8
1915	84·6	13·6	1·8

Investigation into the nature of the offences for which summary convictions were effected during 1915 shows that only a small proportion were really criminal offences, viz., offences against person or property. Following is a classification of summary convictions, showing also their ratio to the general population, during each of the last ten years :—

Year.	Against the Person.	Against Property.	Against Good Order.	Under Defence Act.	Other Offences.	Total Summary Convictions.
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NUMBER OF SUMMARY CONVICTIONS.

1906	1,619	3,857	41,173	13,251		59,900
1907	1,728	3,574	44,759	13,470		63,531
1908	1,571	3,780	44,221	13,204		62,776
1909	1,498	4,193	42,781	13,116		61,588
1910	1,598	3,619	42,959	15,495		63,671
1911	1,664	3,404	44,185	15,805		65,058
1912	1,918	3,981	49,727	2,580	19,405	77,611
1913	1,913	4,244	50,103	5,123	17,690	79,079
1914	2,023	4,068	51,609	3,210	20,307	81,217
1915	1,849	4,439	41,548	2,937	22,455	73,248

PER 1,000 OF MEAN POPULATION.

1906	1.09	2.60	27.73	8.93		40.35
1907	1.14	2.35	29.49	8.87		41.85
1908	1.02	2.44	28.61	8.54		40.61
1909	.95	2.66	27.12	8.32		39.05
1910	.99	2.24	26.58	9.59		39.40
1911	1.00	2.05	26.54	9.50		39.09
1912	1.10	2.29	28.60	1.49	11.16	44.64
1913	1.05	2.35	27.69	2.83	9.78	43.70
1914	1.09	2.19	27.85	1.73	10.96	43.82
1915	.99	2.38	22.24	1.58	12.02	39.21

In most instances the offences shown under the heading of "Other" offences are committed in ignorance of the law, and are met with small or nominal penalties.

For each of the last ten years the total number of summary convictions at both Courts of Petty Sessions and Children's Courts, and the proportion per 1,000 of population, were as follows :—

Year.	Summary Convictions.			Per 1,000 of mean Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
1906	50,691	9,209	59,900	65.59	12.94	40.35
1907	54,752	8,779	63,531	68.81	12.05	41.85
1908	54,322	8,454	62,776	67.74	11.37	40.61
1909	54,901	6,687	61,588	67.10	8.81	39.05
1910	57,842	5,829	63,671	68.85	7.51	39.40
1911	59,357	5,701	65,058	68.36	7.16	39.09
1912	70,637	6,974	77,611	77.36	8.45	44.64
1913	72,250	6,829	79,079	75.96	7.96	43.70
1914	74,572	6,645	81,217	76.81	7.53	43.82
1915	65,675	7,573	73,248	68.33	8.35	39.21

Summary convictions in 1915 resulted in penalties as classified below :—

Offences.	Fines Paid.	Imprisoned in default.	Imprisoned without option.	Bound over and released on probation.	Other Punishments.	Total.
Against the person	1,134	321	257	105	32	1,849
Against property	1,523	830	970	915	201	4,439
Against good order	22,911	15,752	1,190	210	1,485	41,548
Other offences	21,215	732	436	88	2,941	25,412
Total	46,783	17,635	2,853	1,318	4,659	73,248

Included under the heading, "other punishments," are a number of cases of drunkenness in which the defendants took a pledge to abstain from intoxicating liquors, and numerous cases under the universal training section of the Defence Act in which offenders were transferred to the military authorities.

Sentences of imprisonment in default are usually commuted by subsequent payment of fine; the extent to which this practice operates is shown on a subsequent page in connection with the prison services. Per 100 cases, fines were paid in 64; imprisonment in lieu of fine, 24; peremptory imprisonment, 4; bound over, &c., 2; and other punishments, 6.

The fines paid amounted to £58,863, of which £27,741 were paid into Consolidated Revenue and £13,516 to the Police Reward Fund, £4,128 to municipalities and shires, £1,485 to Pastures Protection Boards, £3,023 to informers, and £8,970 were paid to hospitals, societies, &c.

CHILDREN'S COURTS.

Children's Courts under the Neglected Children and Juvenile Offenders Act, 1905, were established throughout the State with the object of removing children as far as possible from the atmosphere of a public court. Magistrates exercise powers in respect of children and of offences committed by and against children. They also possess the authority of a Court of Petty Sessions or Justice under the Children's Protection Act, the Infant Protection Act, and the Deserted Wives and Children Act.

Offences against the universal training section of the Defence Act committed by cadets under 16 years of age are prosecuted in the Children's Courts as far as practicable; magistrates are empowered to fine offenders or commit them to the custody of the military authorities.

The Neglected Children and Juvenile Offenders Act is designed to remove children from association with reputed thieves, and otherwise provides for the protection and reformation of neglected or uncontrollable children, and for the supervision of the children engaged in street trading.

Information as to the number of licenses for street trading, under the Neglected Children Act, and permits under the Children's Protection Act to take part in public exhibitions, at theatres, &c., will be found in a later chapter of this Year Book.

During the year 1915 the charges investigated in Children's Courts numbered 3,348. In addition to these cases, there were 3,202 applications for orders, relating to the disposal of neglected and uncontrollable children, and to the maintenance of children; and 2,016 were cases of non-compliance with orders.

The following table shows the cases taken at Children's Courts during 1915 ; and as offences committed against children are dealt with by these Courts the figures include many cases of adult offenders :—

Offences.	Summarily treated.				Committed to Higher Courts.		Total.		
	Convicted.		Discharged or Withdrawn.						
	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Against the person ...	64	18	63	14	48	1	175	33	208
Against property ...	967	23	453	11	1	...	1,421	34	1,455
Against good order ...	202	9	130	9	...	...	332	18	350
Other offences... ..	1,005	5	322	3	...	...	1,327	8	1,335
Total ...	2,238	55	968	37	49	1	3,255	93	3,348

The following table shows the number of convictions recorded in each class during the last five years :—

Offences.	Convictions.				
	1911.	1912.	1913.	1914.	1915.
Against the person	73	83	76	73	82
Against property	814	900	826	734	990
Against good order	465	301	337	237	211
Under Defence Act	416	377	303	218	781
Other offences		379	278	227	229
Total	1,768	2,040	1,820	1,489	2,293

The figures shown above and other particulars of Children's Courts are included in the aggregate tables relating to Courts of Petty Sessions.

SMALL DEBTS COURTS.

The total number of cases dealt with by the Small Debts Courts during 1915 was 46,880 ; in only 348 cases was the amount claimed in excess of £30. The transactions during the last two years are shown in the following table :—

Transactions.	1914.			1915.		
	Up to £30	£30 to £50	Total.	Up to £30	£30 to £50	Total.
Cases brought before the Registrar—						
Judgments given for Plaintiff...	10,009	118	10,127	10,550	146	10,696
Not proceeded with	12,817	38	12,855	14,398	80	14,478
Verdicts given by Court—						
For Plaintiff	6,507	63	6,570	6,651	59	6,710
For Defendant	415	2	417	403	3	406
Withdrawn or struck out	7,074	29	7,103	7,112	27	7,139
Non-Suits	397	3	400	392	7	399
Cases pending... ..	8,600	37	8,637	7,026	26	7,052
Total cases	45,819	290	46,109	46,532	348	46,880
Amount of Judgments for Plaintiff £	68,042	4,536	72,578	75,148	5,575	80,723
Amount of Verdicts for Plaintiff £	32,983	2,249	35,232	27,387	2,119	29,506

In garnishee cases the Court may order that all debts due by a garnishee to the defendant may be attached to meet a judgment debt, and by a subsequent order, may direct the garnishee to pay so much of the amount owing

as will satisfy the judgment debt. In respect of wages or salary, garnishee orders may be made only for so much as exceeds £2 per week. The garnishee cases in 1915 numbered 1,374.

Oral examinations of judgment debtors as to debts due to them, ordered on the application of a judgment creditor, numbered 598 in 1915. Interpleader cases, as to claims made to goods held under a writ of execution, by a person not party to the suit, numbered 69.

FAIR RENTS COURT.

The Fair Rents Act, 1915, provides for the establishment of Fair Rents Courts, consisting of a Stipendiary or Police Magistrate, to determine the fair rentals of dwellings valued at less than £156 per annum. The operations of the Act have been applied to the Metropolitan district only, and the first Court was opened at Sydney on 13th March, 1916; particulars of its transactions will be given in a later chapter.

LICENSING COURTS.

In the metropolitan district of the State, the Court for granting licenses to sell intoxicants consists of the Metropolitan Stipendiary Magistrates, with the addition of one or more Justices of the Peace specially appointed, bringing the number of occupants of the Bench up to seven, three of whom form a quorum. In country districts the local Police Magistrate and two Justices of the Peace, also specially appointed, constitute the Court. In 1882 the number of licensed houses was 3,063; in 1907, it was 3,022; and in 1914, 2,658, the decrease being 364, or 12 per cent. since 1907.

The Liquor Act, 1912, and its amendment of 1916, regulate the sale of intoxicating liquor, and facilitate the exercise of the principle of local option. In addition to stringent regulations regarding the licensing and management of hotels, the registration of clubs in which liquor is sold is compulsory. Registration is granted only to properly-conducted associations, established for a lawful purpose, on suitable premises.

In consequence of the establishment of military training camps in proximity to Sydney and other large towns, it was deemed advisable to close hotels at an earlier time than the statutory hour of 11 p.m. On 17th February, 1916, the Minister for Defence, in the exercise of powers conferred under the provisions of the War Precautions Act, ordered that all licensed premises in the county of Cumberland, and in places within five miles of any military training camp in the State, should be closed at 6 p.m. On 24th February the order was varied, making the closing hour 8 o'clock. Subsequently an Act was passed in the State Parliament authorising a referendum, when the electors were enabled to vote for the hour of their choice, ranging from 6 p.m. to 11 p.m., both inclusive.

At the referendum an absolute majority of votes was recorded for six o'clock, and since 21st July, 1916, the licensed premises have been closed at that hour. Particulars of the voting are shown below:—

Districts.	Votes Recorded for—						Informal.	Total.
	6 o'clock.	7 o'clock.	8 o'clock.	9 o'clock.	10 o'clock.	11 o'clock.		
City	10,686	216	1,888	14,952	87	94	1,107	28,530
Suburban ...	172,067	2,294	8,994	65,505	347	460	7,198	256,865
Country ...	164,741	2,320	10,752	98,385	971	2,639	13,903	293,711
Total ..	347,494	4,830	21,134	178,842	1,405	3,193	22,208	579,106

The following table shows the total votes recorded, and the proportion to the number of electors enrolled :—

Districts.	Total Votes Recorded.			Proportion of Votes recorded to Numbers of Electors enrolled.		
	Males.	Females.	Total.	Males.	Females.	Total.
City	15,177	13,353	28,530	per cent. 43·03	per cent. 44·40	per cent. 43·66
Suburban	121,923	134,942	256,865	56·56	56·72	56·65
Country	170,511	123,200	293,711	55·42	50·19	53·10
Total	307,611	271,495	579,106	55·08	52·88	54·02

Local Option.

The Liquor Act of 1912 provides that the local option vote be taken at each general election of the State Parliament, unless the election be held within eighteen months of the previous polling-day. In view of the reduction in trading hours after the referendum, special provision was made under the Liquor Amendment Act, 1916, to suspend the taking of the local option vote at the general election in 1917. Publicans' or Colonial wine licenses in any electorate may not exceed the number existent on 1st January, 1906, unless an increase be granted on account of growth of population. Clubs may not exceed the number formed before November, 1905, and registered before March, 1906.

Following are the propositions submitted to electors at each general election in this connection—

- (a) That the number of existing licenses be continued ;
- (b) That the number of existing licenses be reduced ;
- (c) That no licenses be granted in the electorate ;
or where resolution (c) has been previously carried—
- (d) That licenses be restored.

To carry resolution (c) or (d) the votes in favour must represent three-fifths of the total votes polled, and 30 per cent. of the electors on the roll. Where resolution (c) is not carried the votes are added to those given for resolution (b).

In electorates where a majority of electors vote for reduction, licenses may be reduced by one-fourth. Where the "no license" resolution is carried, licenses in the electorate cease to operate within three years, except in cases of special extension.

Particulars of the local option vote taken at the last three elections are shown in the following statement :—

Year.	Electorates in which Electors carried—		Votes recorded for—			Percentage of Total Votes.		
	Con- tinuance.	Reduction.	Con- tinuance.	Reduction.	No-license.	Con- tinuance.	Reduction.	No-license.
1907	25	65	209,384	75,706	178,580	45	16	39
1910	76	14	324,973	38,856	212,889	56	7	37
1913	75	15	380,707	44,453	245,202	57	7	36

The proposition that no licenses be granted has not been carried in any electorate, consequently no vote has yet been taken on the question of "Restoration"

Special Courts are constituted to effect the reductions in accordance with the Act. The time at which the reduced licenses will cease varies from six months to three years, according to the character of the house ; and under special circumstances the latter period may be extended.

When the first local option vote was taken in September, 1907, there were 3,023 hotels in existence; of this number 293 were ordered to be closed at dates varying from 10th September, 1908, to 31st December, 1913. At the second local option vote on 14th October, 1910, there were 2,869 hotels, and as a result of the vote 28 were ordered to be closed. At the date of the election, 6th December, 1913, there were in existence 2,719 hotel licenses, of which 23 will be closed at a date not later than 15th July, 1917.

The number of Wine licenses in operation at the time of the vote of 1907 was 633, of which 46 were abolished. In 1910, of the 565 licenses in existence orders were made in 5 cases, while in 1913, in respect of the 514 existing, 7 closing orders were made.

Liquor Licenses.

The following table gives particulars respecting the number of hotels in the State, and the average population to each:—

Year.	Licenses Issued.	Average Population to each Hotel.	Year.	Licenses Issued.	Average Population to each Hotel.
1900	3,163	428	1910	2,865	564
1905	3,063	475	1911	2,775	600
1906	3,055	486	1912	2,723	638
1907	3,022	502	1913	2,717	666
1908	2,980	519	1914	2,658	697
1909	2,923	540	1915	2,640	708

The annual fee for a Publican's license is regulated by the annual assessed value of the hotel. During the year 1915, an amount of £87,015 was collected on account of such licenses.

The Liquor Act which regulates the issue of hotel licenses provides also for the issue of "Additional Bar" licenses where liquor is sold in more than one room in the licensed premises, and of booth or stand licenses for places of public amusement for a period not exceeding seven days.

Licenses are allowed for the sale of liquor in club premises, and packet licenses to Masters of steamers engaged in the coastal trade of the State.

Colonial Wine, Cider, and Perry licenses are held chiefly by grocers and keepers of restaurants, oyster saloons, and wine and fruit shops; the liquor sold must be the produce of fruit grown in Australasia, and the quantity sold at one time must not exceed 2 gallons.

Spirit Merchants' and Brewers' licenses do not come under the operation of the Local Option vote. Holders of Spirit Merchants' licenses are not permitted to sell a quantity less than 2 gallons of liquor of the same kind at one time.

Railway Refreshment Room licenses are issued under Executive authority and not by Magistrates.

The following statement shows the number of licenses for the sale of intoxicating liquor issued during 1915:—

Class of License.	Annual Fee.	Number of Licenses.	Fees Collected.
	£		£
Publicans'	Regulated by assessed value.	2,640	87,015
Additional Bar	20	141	2,696
Club	£5 and upwards.	73	838
Packet	3-15	19	155
Booth or Stand	2*	1,955	3,910
Colonial Wine, Cider, and Perry ...	3	497	1,491
Brewers'	20-30	26	540
Spirit Merchants'	20-30	192	4,640
Railway Refreshment Room ...	30	27	810

* For period of issue not exceeding seven days.

Other Licenses.

The other licenses issued by Magistrates are Billiard and Bagatelle, Auctioneers', Pawnbrokers', and Hawkers' and Pedlers'. The fee for Billiard and Bagatelle licenses is £10 per annum, and during 1915 there were 831 in force, the total fees collected being £8,135.

Auctioneers' licenses are divided into two classes, viz., General and District. The annual fee for a general license is £15, and for a district £2, and provision is made for a *pro rata* payment for licenses issued after the commencement of the year. There were 289 of the former and 1,540 of the latter current in 1915, the fees received being £6,961. General licenses are available for all parts of the State; district licenses only cover the Police district for which they are issued, but they are not issued for the Metropolitan District. Sales by auction are illegal after sunset or before sunrise, except in the Municipality of Albury, where, under the Auctioneers' Licensing (Amendment) Act, 1915, wool may be put up to sale or sold after sunset.

In 1915 there were 96 Pawnbrokers' licenses current in New South Wales, for each of which an annual fee of £10 is payable. The hours for receiving pledges by pawnbrokers are limited, with certain exceptions, to between 8 a.m. and 6 p.m., but no restriction is placed on the rate of interest charged.

The annual license fee for a hawker trading on foot is £1, and if with pack animals or vehicles the charge is £2; the total amount of fees received during 1915 was £1,799.

Licenses Issued—Comparative Table.

A table showing the principal licenses issued in 1905, and in the last five years, is given hereunder:—

Licence.	1905.	1911.	1912.	1913.	1914.	1915.
Publicans'	3,063	2,775	2,723	2,717	2,658	2,640
Additional Bar ... ..	...	118	124	127	140	141
Club ... ..	...	76	76	76	76	73
Railway Refreshment	24	29	26	27	27	27
Booth or Stand	1,915	1,829	1,940	2,049	2,126	1,955
Packet	24	24	22	19	20	19
Colonial Wine, Cider, and Perry	682	532	569	515	506	497
Spirit Merchants'	205	198	186	207	205	192
Brewers'	40	20	32	29	26	26
Billiard and Bagatelle	698	859	902	973	934	831
Auctioneers'—General	222	298	317	309	318	289
District	1,064	1,443	1,589	1,586	1,631	1,540
Pawnbrokers'	66	105	97	80	100	96
Hawkers' and Pedlers'	*	*	*	*	1,473	1,354

* Not available.

Registration of Dogs.

The Dog and Goat Act, 1898, prohibits the use of dogs or goats for the purpose of drawing or helping to draw any cart, carriage, truck or barrow. All dogs must be registered annually at a fee of 2s. 6d., with a reduction to 1s. 3d. for latter six months of year. During 1915 there were 132,545 dogs registered in New South Wales, the fees collected amounting to

£16,548. Additional revenue to the extent of £229 was obtained from searches, copies of registration, sale of forms, &c. In the same year 3,034 stray dogs were destroyed by the Metropolitan police, the expenditure being £379.

CORONERS' COURTS.

Under the Coroners Act, 1912, every stipendiary or police magistrate has the powers and duties of a coroner in all parts of the State, except the Metropolitan Police District, which is under the jurisdiction of the City Coroner.

Inquiries are held in all cases of violent or unnatural death; and, at the discretion of the Coroner, in cases of destruction or damage to property by fire; and on the evidence the Coroner is empowered to commit for trial persons judged guilty of manslaughter, murder, or arson.

The transactions of Coroners' Courts during 1915 resulted in 62 persons, 58 males and 4 females, being committed for trial to higher Courts; the offences charged being murder, 23 males and 3 females; manslaughter, 20 males and 1 female; arson, 15 males.

Inquests upon Deaths.

Under the Coroner's Court Act, 1904, a Coroner may hold an inquest, sitting alone; but upon request of a relative, of the secretary of any society of which the deceased was a member, or on the order of the Minister of Justice, a jury of six is called. The number of deaths of which the causes were investigated by Coroners or Magistrates, during 1915, was 1,449—males 1,144, and females 305; the verdicts were that 1,105 deaths were caused by violence. The deaths of 552 males and 138 females were the results of accidents, and 199 males and 47 females were found to have committed suicide.

Inquests upon Fires.

During 1915 inquiries were held into the origin of 155 fires; accident was ascribed as the cause in 8 cases, arson in 29; in 118 instances there was insufficient evidence.

DISTRICT COURTS.

District Courts are held for the trial of civil causes where the property involved or the amount claimed does not exceed £400, and in cases where a title to land not exceeding £200 in value is in question. These Courts are presided over by Judges, who also perform the duties of Chairmen of Quarter Sessions for the trial of prisoners, except those charged with capital crimes. District Courts are held during ten months of the year in the metropolis, and twice a year in all important country towns. The Judge is not usually assisted by a jury; but in cases where the amount in dispute exceeds £20, either of the parties, by giving notice to the Registrar of the Court, may have a jury consisting of four or twelve men. On questions of law, and in respect of admission or rejection of evidence, appeal lies to the Supreme Court. At the end of 1915 there were 69 District Courts in the State.

The several District Court Judges, numbering ten, are also Chairmen of Courts of Quarter Sessions and Judges of the Court of Review within their respective districts, as well as Judges of the Court of Marine Inquiry.

Particulars of suits brought in District Courts during the last ten years are given in the following table :—

Year.	Total Suits.	Causes tried.		Causes discontinued or settled without hearing.	Judgment for Plaintiff by default, or confession, or agreement.	Causes referred to Arbitration.	Causes pending and in arrear.	Total amount of Claims.	Court Costs of Suits.
		Verdict for Plaintiff.	Verdict for Defendant (including non-suits).						
								£	£
1906	3,277	489	191	1,014	972	2	609	123,510	8,708
1907	2,971	388	156	852	903	2	670	134,991	9,470
1908	3,565	371	194	898	1,239	3	860	166,680	9,346
1909	4,314	479	191	1,206	1,398	5	1,035	204,642	10,853
1910	2,930	253	137	740	1,059	3	738	130,295	8,929
1911	4,123	376	186	1,278	1,326	4	953	199,437	11,824
1912	5,162	454	234	1,601	1,719	16	1,138	270,176	15,492
1913	6,058	527	221	1,828	1,993	8	1,481	290,776	16,468
1914	6,788	464	242	1,868	2,295	7	1,912	328,429	18,062
1915	6,180	427	224	1,698	2,174	2	1,655	293,697	16,846

Of the causes heard during 1915, only 71 were tried by jury. During the same period there were 7 appeals from judgments given in District Courts, and 1 was successful; there were 7 motions for new trials, of which 4 were granted. The amount of judgment for plaintiffs during the year was £100,762.

INDUSTRIAL ARBITRATION.

The Court of Industrial Arbitration is a superior court, and a court of record, having jurisdiction and powers conferred on it by the Industrial Arbitration Act, 1912.

The Court or an Industrial Board exercising the jurisdiction under the Act is governed in its procedure and in its decisions by equity and good conscience, and is not bound to observe the rules of law governing the admissibility of evidence.

Court of Industrial Arbitration.

The transactions of the Court of Industrial Arbitration show that at 30th June, 1916, 233 Boards were in operation, 373 having been constituted and 226 dissolved during the year. Prosecutions for strikes or lock-outs numbered 288, and 13 convictions followed. There were 14 proceedings on appeal from the Industrial Magistrates. The expenditure for Boards, representing fees and travelling expenses, amounted to £12,999. Further information regarding the transactions of the Court are shown in the part of the Year Book relating to "Employment and Industrial Arbitration."

Industrial Magistrates.

In regard to the proceedings before Industrial Magistrates, the cases under the Industrial Arbitration Act numbered 2,389, and the convictions and orders 1,877. In 140 cases orders were made to pay fines and subscriptions to unions. There were 851 convictions for breach of award or industrial agreement, 457 for failure to keep time and pay sheets of employees, and 387 for failure to exhibit awards.

Industrial Registrar.

The applications for registration of Unions numbered 18. The records of the Industrial Registrar's Office show that 785 indentures of apprenticeship were lodged, and 40 industrial agreements filed.

Investigation Office.

At the Investigation Office 2,986 complaints were received during the year 1915-16. There were 1,717 prosecutions and 1,536 convictions, and the fines inflicted amounted to £1,707, and costs, £978.

THE SUPREME COURT.

The Supreme Court of New South Wales, consisting of the Chief Justice and seven Puisne Judges, has jurisdiction in all matters which pertained to the jurisdiction of His Majesty's Courts at Westminster, or the respective Judges thereof in the administration of justice, under any Imperial Act in force in England on 1st March, 1829, and applicable to New South Wales, or under any Imperial Act applicable and adopted in New South Wales. Every power, jurisdiction, or authority vested in the Court, or in the Judges collectively, may be exercised lawfully by two or more Judges of the Court.

The Chief Justice and three Puisne Judges are engaged ordinarily in matters of Common Law, including the Criminal and Civil jurisdictions, the other Judges in matters in Equity, Bankruptcy, and Probate, and Divorce and Matrimonial Causes.

A Puisne Judge must be a barrister of at least five years' standing, and his commission is dependent upon his good behaviour, and revocable only upon address of both Houses of the Legislature.

Any Judge of the District Court, or any barrister or solicitor of at least seven years' standing, may be appointed as Acting Judge; and Judges may be authorised to exercise special jurisdiction, having all the power and authority of such jurisdiction.

The work of the Court is taken in four terms, the durations of which are arranged by the Judges in the several jurisdictions; and during vacation, to prevent possible delay and consequent injury, every Judge is empowered to make such orders and grant such writs as are ordinarily made or granted only by the Court. In cases of exigency, such power is exercisable by any Judge during term. Under the Supreme Court and Circuit Courts Amendment Act of 1912, the Judges may make rules to empower the Prothonotary to sit in Chambers and exercise the jurisdiction, of a Judge sitting in Chambers, except in matters relating to the liberty of the subject.

COMMON LAW PROCEDURE.

Under the Supreme Court Procedure Act, 1900, the parties to an action may consent to dispense with a jury, whereupon the finding of the Judge ranks as the finding of a jury. Issues under the Real Property Act also may be tried without a jury; and applications directed by the Real Property Act, 1900, to be made to the Supreme Court may be made to the equitable jurisdiction of the Court, or to the Supreme Court holden before three Judges.

Rules of Court.

Rules of Court are made by the Judges of the Court, but non-compliance with such rules does not void any proceeding unless the Court or a Judge direct, though such proceedings may be set aside as irregular or amended.

EQUITY PROCEDURE.

Equitable relief may be given on an originating summons, appeals lying to the Full Court, and the Equity Court has discretion to refuse an administration decree if the questions between the parties can be determined otherwise.

CIVIL JURISDICTION.

Civil actions are tried usually before a jury of four persons, but either party to the suit, on cause shown, may apply to the Court to have the cause tried before a jury of twelve. The jury find only as to the facts of the case, being bound by the ruling of the Judge on points of law. From the Court thus constituted appeal lies to the "Full Court," sitting *in Banco*, which is composed generally of at least three of the Judges. The Chief Justice, or in his absence the senior Puisne Judge, presides over the Full Court, which gives its decision by majority. New trials may be granted where the Judge has admitted erroneously or rejected material evidence; where he has directed the jury wrongly on a point of law; where the verdict of the jury is clearly against evidence; or where, from some other cause, there has been evidently a miscarriage of justice.

An appeal to the High Court may be made in cases where the amount involved exceeds £300, or, in any case, with the permission of the High Court.

Provision is made for appeal by a suitor to the Privy Council, subject to leave from the Supreme Court. The dispute must involve a minimum amount of £500. In other cases, application for leave to appeal must be made directly to the Privy Council.

ADMIRALTY COURT.

The Supreme Court of the State has been constituted a Colonial Court of Admiralty, with power to hear and determine matters previously determined by the Vice-Admiralty Court. During 1915, 9 causes were taken in the Admiralty Court, 4 for loss by collision, 4 for salvage, and 1 for damage to cargo. In five cases verdicts were given for plaintiff, and the remaining cases were settled, not proceeded with, or pending.

SHERIFF'S OFFICE.

The transactions of the Sheriff's Office during 1915 included the issue for service of 1,438 writs of summonses in the Supreme Court, as against 1,507 for 1914; the money value involved is not recorded. Other writs issued included 414 *fiery-facias*, involving amounts aggregating £157,352, and fines and estreats, 464, amounting to £23,196 in value.

EQUITY JURISDICTION.

The Equity Act, 1901, consolidated enactments relating to the practice, procedure, and powers of the Supreme Court in matters of equity demanding relief, including the appointment of guardians of infants and the administration of their estates. The Judge in Bankruptcy may also act as a Judge in Equity. When the Judge in Equity has the assistance of two other Judges, the decision of the majority has the effect of a Full Court decision. The Court, in making binding declarations of right, may call for the assistance of actuaries, engineers, merchants, or any other persons; has power to award damages, or to grant specific performance; and exercises all the powers of the Common Law Jurisdiction of the Supreme Court in deciding certain legal rights; also the Court may delegate investigations to the Master in Equity, who is also the Master in Lunacy, and undertakes various duties, as of Taxing Officer, Head of the Records and Writ Office, &c. On 31st December, 1915, the Master in Lunacy held Trust Funds

amounting to £250,913. The following is a statement of the transactions in Equity jurisdiction during the last ten years :—

Year.	Statements of Claims.	Statements of Defence.	Petitions.	Summonses.	Motions.	Decrees, Orders, and Certificates.
1906	149	86	64	183	127	1,030
1907	172	88	71	195	147	1,072
1908	191	124	65	151	135	1,047
1909	210	121	66	153	168	1,016
1910	181	117	87	166	120	949
1911	157	78	100	149	123	871
1912	171	92	92	152	133	816
1913	196	128	132	147	162	1,040
1914	222	122	87	150	204	1,100
1915	175	108	66	93	149	800

The amount of Trust Funds invested under Equity Jurisdiction in 1915 was £824,181, the investments being made at interest rates ranging from 1 to 6 per cent.

PROBATE JURISDICTION.

Under the Wills, Probate and Administration Act, 1898, the Supreme Court in its Probate Jurisdiction absorbed the powers previously vested in the Primary Judge in Equity; and under the Administration Amending Act, 1906, formal duties in the granting of probates and letters of administration are delegated to the Registrar of Probates, subject to right of appeal to the Judge. In estates of less value than £300 the intervention of a solicitor is unnecessary; in 1915 probate or letters of administration were granted for 424 such estates valued at £57,816.

The number of probates and letters of administration granted by the Supreme Court in its testamentary jurisdiction for the last ten years is shown in the following table; the figures for the last two years include estates administered by the Public Trustee :—

Year.	Probates granted.		Letters of Administration.		Total.	
	Number of Estates.	Value of Estates.	Number of Estates.	Value of Estates.	Number of Estates.	Value of Estates.
		£		£		£
1906	1,927	6,697,600	925	831,837	2,852	7,529,437
1907	2,045	6,835,381	1,039	728,118	3,084	7,563,499
1908	2,114	7,054,170	980	784,402	3,094	7,838,572
1909	2,104	10,295,793	1,081	846,275	3,185	11,142,068
1910	2,261	7,649,944	1,075	1,184,990	3,336	8,834,934
1911	2,421	12,257,228	1,168	880,840	3,589	13,138,068
1912	2,467	9,766,844	1,150	955,232	3,617	10,722,076
1913	3,011	10,716,922	1,268	1,038,627	4,279	11,755,549
1914	2,767	10,973,225	1,656	1,004,219	4,423	11,977,444
1915	3,028	10,703,553	1,762	1,282,750	4,790	11,986,303

These figures represent the gross values of estates, inclusive of those not subject to duty.

Intestate Estates.

The Registrar of Probates, as Curator of Intestate Estates, under the jurisdiction of the Supreme Court, was empowered under the Wills, Probate, and Administration Act, 1898, to apply for orders to administer estates of intestates, or of persons who have appointed the Curator as executor, or where no executor is appointed. Moneys unclaimed after six years are paid into the Consolidated Revenue Fund, but a rightful claimant may obtain payment, without interest, at any subsequent period.

On 1st January, 1914, the functions of the Curator of Intestate Estates were taken over by the Public Trustee, who may act as executor or trustee either by will or by appointment, also as agent or attorney.

The Public Trustee is not allowed to make profits, and the commission and fees chargeable against estates are arranged from time to time to produce an annual amount sufficient to defray working expenses. Special provision has been made for the deposit of wills with the Trustee, and transfers of property to him as Public Trustee are exempt from stamp duty.

In the following table is shown the business transacted during the last three years :—

Particulars.	1914.	1915.	1916.
New estates administered—			
As administrator	1,256	1,790	2,110
As Executor or Trustee	21	86	80
As Attorney or Agent	2	8	21
	£	£	£
Amount received	174,750	266,277	328,966
Amount paid	150,774	205,181	337,524
Commission and fees	7,226	7,890	10,126
Unclaimed Money—			
Paid into Treasury	7,477	8,408	16,343
Subsequently claimed	3,210	783	448

BANKRUPTCY JURISDICTION.

Any person unable to meet his debts may surrender his estate for the benefit of his creditors, or the latter may apply for a compulsory sequestration under certain specified conditions, the case coming under the Bankruptcy Jurisdiction of the Supreme Court.

Certain of the powers vested in the Judge in Bankruptcy are delegated to the Registrar in Bankruptcy, and in country districts Police Magistrates and Registrars of District Courts, appointed as District Registrars, have the same powers and jurisdiction as the Registrar in respect to the examination of bankrupts held before them ; but appeal from a decision of the Registrar, or of a District Registrar, lies to the Judge in Bankruptcy, who also deals with questions relating to priority of claims.

An official assignee, deputed by the Judge to manage the estates of insolvents, receives $2\frac{1}{2}$ per cent. commission on the amount realised, and $2\frac{1}{2}$ per cent. on the amount of dividends declared, and in some cases special remuneration awarded by the Court. Creditors may accept, and the Court endorse, a proposal for a composition, or for a scheme of arrangement, subject to the approval of a majority representing three-fourths of the value of all approved claims. Such a proposal having been accepted, one or two trustees may be appointed in place of, or in addition to, the official assignee. After acceptance of a composition, or approval of a scheme of arrangement, a bankrupt's estate may be released from sequestration. Release may be effected when all creditors have been paid in full, or when they have given a legal quittance of the debts due. In other cases, a bankrupt may give notice, by advertisement, three months from the time of sequestration, of his intention to apply for a certificate of discharge, whereupon the Court receives a report from the official assignee, and may either grant or refuse an absolute order of discharge, suspend the operation of the order for a certain time, or grant an order subject to conditions respecting the future earning

or income of the bankrupt. Operations in the Bankruptcy Court are discussed in detail in the chapter of this volume relating to Private Finance.

Analysis of the occupations of persons declared bankrupt during 1915 shows the following grouping:—

Group.				Number of Bankrupts.	Group.				Number of Bankrupts.
Professional	...	...	...	30	Industrial	...	...	...	161
Domestic	...	...	...	28	Primary Producers	...	...	...	48
Commercial	...	...	...	115	Indefinite	...	...	...	10
Transport and communication...				13	Total	...	...	...	405

According to Bankrupts' Statements of Affairs, the liabilities of the estates sequestrated in 1915 amounted to £428,700, and the assets to £166,748, thus leaving a deficiency of £261,952.

The Court Fees paid to the Treasury were £4,025.

DIVORCE AND MATRIMONIAL CAUSES JURISDICTION.

The Supreme Court of New South Wales has jurisdiction in divorce, dating from the Matrimonial Causes Act, 1873, under which the important grounds for divorce were adultery on the part of the wife, and adultery and cruelty on the part of the husband. The present law is contained in the Matrimonial Causes Act, 1899, under which jurisdiction is vested in the Supreme Court in respect of all causes, suits, and matters matrimonial, excepting in respect of marriage licenses. Dissolution of marriage may be granted on petition as under—

Husband v. Wife.—Adultery, desertion, or habitual drunkenness and neglect of domestic duties, for three years; refusal to obey an order for restitution of conjugal rights; imprisonment for three years and upwards under sentence for at least seven years; attempt to murder or to inflict grievous bodily harm, or repeated assaults and cruel beatings during one year preceding the date of the filing of the petition.

Wife v. Husband.—Adultery; desertion, or habitual drunkenness, with neglect to support and cruelty, for three years; refusal to obey an order for restitution of conjugal rights; imprisonment for three years and upwards under sentence for at least seven years; imprisonment under sentences aggregating three years, within a quinquennial period; attempt to murder or to inflict grievous bodily harm, or repeated assaults and cruel beatings within one year of petition.

The petitioner must have been domiciled in the State at the time of instituting the suit.

Judicial separation may be sought on grounds of cruelty or desertion without cause extending over two years, and nullity may be declared in cases of marriages which are void.

The law provides also for suits for the restitution of conjugal rights, for alimony, and generally for the enactment and enforcement of decrees.

PETITIONS FOR DIVORCE, &c.

The first Divorce Act in New South Wales was passed in 1873.

The following statement shows the divorces, judicial separations, and decrees of nullity of marriage granted in New South Wales since the 1st July, 1873 :—

Period.	Divorces.		Judicial Separation granted.	Nullity of Marriage.	
	Decrees nisi.	Decrees absolute.		Decrees nisi.	Decrees absolute.
1873-1877	55	33	...	...	...
1878-1882	85	70	...	...	...
1883-1887	141	120	8	2	2
1888-1892	305	224	31	5	5
1893-1897	1,403	1,308	55	7	7
1898-1902	1,184	1,098	89	12	12
1903-1907	1,027	886	73	15	12
1908-1912	1,301	1,299	61	20	18
1913	360	313	9	3	4
1914	368	295	6	4	2
1915	409	346	6	...	3

In 1914 one decree for jactitation was granted.

Reckoning as a divorce only those cases where the decree has been made absolute, the total number of decrees from 1873 to 1915 was 6,395, of which 5,992 were divorces, 65 cases of nullity of marriage, and 338 judicial separations. The majority of petitions are lodged by the wife, the proportion being approximately 70 made by the wife to 30 lodged by the husband.

The following statement shows the sexes of petitioners for divorce in the cases of decrees made absolute during the past ten years :—

Year.	Petitions for Divorce.		Year.	Petitions for Divorce.	
	Husband.	Wife.		Husband.	Wife.
1906	51	106	1911	64	142
1907	40	108	1912	116	227
1908	68	138	1913	129	184
1909	85	202	1914	125	170
1910	81	176	1915	132	214

In regard to judicial separations during the same period, 14 were granted on petition of the husband, and 102 on petition of the wife.

The grounds of suits for divorce made during each year since 1906 were as follow :—

Ground of Suit.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Adultery	60	62	67	85	69	65	87	97	102	108
„ coupled with bigamy, cruelty, and desertion	6	4	7	13	10	5	3	5	5	5
Attempt to murder ... ..	...	...	...	...	...	...	...	1	...	...
Cruelty and repeated assaults ... ..	...	1	1	1	3	1	1	...	...	2
„ „ habitual drunkenness ..	9	6	8	7	5	...	1	6	5	3
Desertion	73	65	110	157	152	118	224	195	158	183
Habitual drunkenness and neglect to support	3	6	5	11	4	11	12	2	10	9
Habitual drunkenness and neglect of domestic duties	2	1	1	2	2	3	2	...	3	1
Imprisonment of husband for three years	1	1	2	4	2	...	1	2	...	...
Non-compliance with order for restitu- tion of conjugal rights	3	2	5	7	10	3	12	5	12	35
Total	157	148	206	287	257	206	343	313	295	346

As to the grounds in support of applications for divorce, the majority of petitions granted were made on issues of desertion, a lesser proportion including habitual drunkenness as a causative factor in the conditions upon which the application was based. The following statement shows the proportions of petitions based on these grounds, viz., desertion and habitual drunkenness, during the ten years, 1906–1915 :—

Year.	Causes based on—		Other.	All Causes.	Year.	Causes based on—		Other.	All Causes.
	Desertion.	Drunkenness				Desertion.	Drunkenness		
1906	76	14	67	157	1911	121	14	71	206
1907	67	13	68	148	1912	236	15	92	343
1908	115	14	77	206	1913	200	8	105	313
1909	164	20	103	287	1914	170	18	107	295
1910	162	11	84	257	1915	218	13	115	346

It will thus be seen that 65 per cent. of divorces granted are allowed on these two counts. In cases of judicial separations, cruelty and repeated assaults are prominent factors.

As regards the duration of marriages dissolved, the records for 1915 show an average of 11·7 years, the families averaging 1·4 children.

COMMON LAW JURISDICTION.

The following table gives the number of causes set down and writs issued, and the amount for which judgment was signed, in the Supreme and Circuit Courts (Common Law Jurisdiction) during the last five years. The number of writs issued includes cases which were settled subsequently by the parties ; but the total amount involved in these claims is not included in the sum for which judgment was signed. The amounts for signed judgments include taxed costs in all cases where the judgments have been completed at the end of the year. During 1915 the total bills of costs amounted to £44,549, but from this a sum of £11,986 was taxed off, leaving the net costs at £32,563. The Court costs of taxation amounted to £649 :—

Particulars.	1911.	1912.	1913.	1914.	1915.
Causes tried—					
Verdict for plaintiff	113	120	128	122	146
" defendant	40	36	39	32	43
Jury disagreed	2	.....	.....	.....	.....
Non-suit	12	2	11	4	4
Total	167	158	178	158	193
Not proceeded with	94	102	128	103	96
Referred to arbitration	1	.....	6	5	.....
Total	262	260	312	266	289
Writs issued	1,892	2,497	2,842	3,103	2,884
	£	£	£	£	£
Fees paid into Consolidated Revenue Fund	3,804*	7,523	9,227	9,508	9,510
Cost of litigation—					
Brought in at	39,502	44,628	43,031	52,030	44,549
Taxed off	11,384	14,476	12,906	18,454	11,986
Amount allowed	28,118	30,152	30,125	33,576	32,563
Court costs of taxation	568	609	580	675	649

* Half-year, July–December.

The small number of causes set down for hearing in comparison with the number of writs issued indicates the extent to which cases are settled out of Court.

The Commercial Causes Act, 1903, provided an expeditious method for the trial of commercial causes, which include matters relating to the ordinary transactions of merchants and traders, the construction of mercantile documents, affreightment, insurance, banking, and mercantile usages. The parties to a Supreme Court common law action may secure the Judge's order to have it brought upon the list of Commercial Causes, and from this order there can be no appeal. To secure speedy settlement in accordance with the aim of the Act the Judge is empowered to dispense with juries, pleadings, and technical rules of evidence, and with proofs of writing and documents, and to order inspections and admissions ; he may also settle the issues for trial, and state a case on points of law for the Full Court.

COURTS OF MARINE INQUIRY.

A Court of Marine Inquiry is constituted of one or more District Court Judges assisted by assessors appointed under the Navigation Act, who have power only to advise, and not to adjudicate, upon any matter before the Court.

Such a Court hears and determines inquiries as to wrecks, shipping casualties, charges of incompetency or misconduct of officers, and appeals and references under the Navigation Act. Inquiries held during 1915 numbered 17, of which 10 were as to collisions, 4 stranding, and 2 foundering, 1 grounding. The Courts found in 6 cases that blame was not attachable to any particular person; in 9 cases the master was exonerated; in 9 cases masters were found at fault, and 2 certificates were suspended. In one case a mate was deemed at fault, and one certificate was suspended.

CRIMINAL JURISDICTION. *

A Judge of the Supreme Court presides over the Central Criminal Court of Gaol Delivery held quarterly at Sydney, when all prisoners are tried by a jury of twelve, chosen by lot from the panel provided by the Sheriff. In capital cases the right to challenge, both by the Crown and by the accused, is limited to twenty jurors, except for cause shown; and in cases other than those in which the sentence of death may be imposed, whether felonies or misdemeanours, the number challenged may not exceed eight. At the close of the case for the prosecution, an accused person may make a statement in his defence without rendering himself liable to examination thereupon, either by counsel for the Crown or by the Court. The Accused Persons Evidence Act, 1898, provides that it shall not be lawful to comment at the trial of any person upon the fact that he has refrained from giving evidence on oath on his own behalf. The verdict of the jury must be unanimous, and they may be detained until they give a verdict or are discharged by the Court. If no verdict is returned, the prisoner may be tried again before another jury.

CIRCUIT COURTS.

In accordance with the provisions of the Supreme Court and Circuit Courts Act, 1900, the State was divided into circuits, in which Courts would be held by a Judge of the Supreme Court, such Courts being courts of record, of oyer and terminer, and of assize and nisi prius for New South Wales, and of gaol delivery in and for the particular district. Jurisdiction in civil actions vested in every Circuit Court, which was empowered to try and determine all issues of fact, and to inquire into and assess damages in actions before the Court. Further, every Circuit Court had criminal jurisdiction, to hear and determine all cases of crimes and misdemeanours committed in New South Wales, upon information by or on behalf of the Attorney or Solicitor-General, conviction involving liability to the same penalties as if imposed by the Supreme Court. Procedure in Circuit Courts was as established for the Supreme Court.

The Supreme Court and Circuit Courts (Amendment) Act, 1912, provided for the hearing of civil and criminal causes in the country by sittings of the Supreme Court at towns and places notified by proclamation as circuit towns; the Supreme Court is a Court of gaol delivery, for which purpose the Court may be constituted by one Judge sitting in open Court in the exercise of criminal jurisdiction. The gaoler at each gaol is required, at prescribed times, to make returns to the Supreme Court of persons under detention.

QUARTER SESSIONS.

The Courts of Quarter Sessions are held by Chairmen, who also perform the duties of Judges of the District Courts. There are eight Chairmen of Quarter Sessions; three of these preside over the Courts in the metropolitan district, and one each in the following districts:—Southern and Hunter, south-western, northern, north-western, and western. All offences, except

those involving the capital penalty, are within the jurisdiction of the Court. On the trial of prisoners at Quarter Sessions, at the request of the prisoner's counsel, the Chairman must reserve questions of law for the consideration of the Supreme Court.

CHARGES BEFORE HIGHER COURTS.

During the year 1915 there were 963 persons, viz., 911 men and 52 women, charged before the higher Courts of the State. The following table shows the results in the cases of these accused persons for 1914 and 1915 in comparison :—

Sex.	1914.			1915.		
	Charged.	Convicted.	Withdrawn, discharged, &c.	Charged.	Convicted.	Withdrawn, discharged, &c.
Males	890	763	127	911	794	117
Females	61	47	14	52	49	3
Total	951	810	141	963	843	120

Classifying accused persons according to the nature of the offences, it is found that, in cases both of males and females, offences against property are the most numerous. A statement is given below of the principal offences of the persons convicted in higher Courts during 1915 :—

Offences.	Males.		Females.		Total.	
	Number.	Per cent. of total.	Number.	Per cent. of total.	Number.	Per cent. of total.
Against the person	150	19·0	10	20·4	160	19·0
Against property	537	67·6	27	55·1	564	66·9
Forgery and against the currency ...	55	6·9	4	8·2	59	7·0
Against good order	10	1·2	1	2·0	11	1·3
Other offences... ..	42	5·3	7	14·3	49	5·8
Total... ..	794	100·0	49	100·0	843	100·0

The following statement shows the character of the principal offences of persons convicted in higher Courts during each of the last five years :—

Offences.	1911.	1912.	1913.	1914.	1915.
Against the person	141	136	189	180	160
Against property	313	410	478	537	564
Forgery and against the currency ...	48	48	60	61	59
Against good order	14	2	11	7	11
Other offences	22	24	34	25	49
Total	538	620	772	810	843

POOR PRISONERS' DEFENCE ACT.

Under the Poor Prisoners' Defence Act, 1907, any person committed for trial for an indictable offence may apply for legal aid for his defence before the jury is sworn. If the judge or committing magistrate considers that the person is without adequate means, and that such legal aid should be supplied, the Attorney-General may arrange for the defence of the accused and for payment of expenses of all material witnesses.

LAND APPEAL COURT.

For the year ended 30th June, 1916, the cases referred to the Court numbered 46, of which 44 were referred by the Minister for Lands, and 2 by local Land Boards. Of the cases heard during the period, 28 resulted in the appeal being upheld, and 6 were sent back for rehearing, 23 were dismissed, and 1 was withdrawn.

HIGH COURT OF AUSTRALIA.

Under the Commonwealth Constitution Act, the judicial power of the Commonwealth, both in original and appellate jurisdiction is vested in the High Court of Australia. Its original jurisdiction extends to matters in which the Commonwealth is a party, or which lie between States or residents of States. Its appellate jurisdiction extends to the hearing and determination of appeals from all judgments, decrees, orders and sentences of any justice exercising the original jurisdiction of the High Court or any other Federal Court, or of the Supreme Court or any other Court of any State from which an appeal previously lay to the King in Council. The judgment of the High Court, in all such cases, is final; its sittings are held in the capitals of the States, as may be necessary. Hitherto the majority of actions brought before the High Court have related to its appellate jurisdiction.

APPELLATE JURISDICTION.

Courts having Appellate Jurisdiction are the following:—Courts of Quarter Sessions, the Supreme Court, the Full Court, the High Court of Australia, and, finally, the Privy Council. A Court of Criminal Appeal was established in 1912.

Courts of Quarter Sessions.

Appeal lies from Courts of Petty Sessions to Courts of Quarter Sessions, which provide a ready means of bringing the orders and convictions of Stipendiary Magistrates and Justices under review, and assure co-ordination of procedure in the lower Courts. Questions of fact as well as of law may be taken before these Courts, and the right of appeal exists in all cases of Magistrates' orders or convictions excepting orders made under the Seamen's Act, and in cases of adjudication to imprisonment for failure to comply with an order for payment of money, or for finding sureties.

The results of appeals from Courts of Petty Sessions during the last five years are shown below:—

Year.	Not concluded.	Conviction or order.			Total.
		Confirmed.	Varied.	Quashed.	
1911	56	208	23	79	366
1912	65	274	49	68	456
1913	9	291	58	104	462
1914	80	208	39	71	398
1915	93	240	55	89	477

Appeals to Supreme Court.

In connection with appeals from Magistrates and Wardens' Courts, applications for prohibition or mandamus are made either to a Judge in Chambers or to the Full Court; appeals from decisions of District Court Judges sitting in the Mining Appeal Court are made to the Supreme Court, and appeals by way of special case from Warden's Courts are determined by a Judge in Chambers.

During 1915, applications for writs of prohibition and mandamus numbered 26, of which 10 were to Judges in Chambers, and 16 to the Full Court. Writs granted were 13, viz., 3 of mandamus and 10 of prohibition.

The special cases numbered 21; decisions were sustained in 10 and reversed in 6 from the Magistrates' Courts. Of Appeals in Land Cases, 1 decision was sustained and 1 reversed.

Appeals to Full Court.

In Common Law 43 cases were taken during 1915, all of which were civil cases, consisting of new trial motions; 13 were granted and 19 refused, and 11 were not proceeded with. There were 5 appeals in Equity; 3 were sustained and 2 disallowed. There were no appeals in Probate, Bankruptcy, or Divorce. Appeals from District Courts numbered 15, of which 2 were allowed, 3 refused, and 10 were not proceeded with.

Court of Criminal Appeal.

The Court of Criminal Appeal was established by the Criminal Appeal Act of 1912, which prescribes that the Supreme Court shall be the Court of Criminal Appeal, constituted by three or more Judges of the Supreme Court as the Chief Justice may direct. Any person convicted on indictment may appeal to the Court against his conviction (1) on any ground which involves a question of law alone, or (2) with the leave of the Court or upon the certificate of the judge of the court of trial, on any ground which involves a question of fact alone, or of mixed law and fact, or any other ground which appears to the Court to be sufficient. A convicted person may also, with the leave of the Court, appeal against the sentence passed on conviction; in such appeal the Court may quash the sentence and substitute another either more or less severe.

In addition to determining appeals in ordinary cases the Court has power, in special cases, to record a verdict and pass a sentence, in substitution of the verdict and sentence of the court of trial; it may also grant a new trial, either on its own motion or on application of the appellant.

The result of appeals since the inception of the Court are shown hereunder:—

Year.	Applications to Judge.		Applications to Court.			Total Cases.	Sentences Varied (included with Convictions Affirmed).
	Granted.	Refused.	Convictions.		New Trials Granted.		
			Affirmed.	Quashed.			
1912	1	4	21	...	...	21	2
1913	3	20	46	2	8	56	2
1914	1	18	42	4	...	46	1
1915	1	11	50	1	6	57	...

Appeals to High Court of Australia.

During 1915 appeals made from decisions of Judges of the Supreme Court of New South Wales were decided as follows:—In Equity, 3 allowed and 6 dismissed; in Bankruptcy, 1 allowed; and in Divorce, 2 dismissed.

In addition, appeals from the Full Court of the Supreme Court of New South Wales numbered 14, of which 5 were allowed, 7 dismissed, and 2 settled. The Full Court dismissed also 2 appeals from a Justice of the High Court, and refused a motion to quash a conviction referred under the Judiciary Act.

Two appeals from the decision of a Judge exercising Federal jurisdiction in New South Wales were dismissed.

Seven applications for leave to appeal from judgments of the Supreme Court of New South Wales were refused, and 2 appeals from a Magistrate exercising Federal jurisdiction were allowed and 4 were dismissed.

Appeals to Privy Council.

During 1915, 2 applications for leave to appeal in Common Law were granted. There were 3 appeals to the Privy Council; 1 in Common Law and 1 in Admiralty were not concluded, and 1 in Equity was upheld.

THE GOVERNMENT IN LITIGATION.

The Government of New South Wales was concerned in 2,030 actions during the year 1915, as plaintiff in 1,424, and as defendant in 606. Of these actions 1,356 were instituted or defended by the Crown Solicitor, 619 by the Solicitor for Railways, and 55 were cases concerning the Metropolitan Board of Water Supply and Sewerage.

The results of the actions were as stated below:—

Actions.	Government as—		Total.
	Plaintiff.	Defendant.	
Settled or discontinued	903	481	1,384
Tried—Verdict for Plaintiff	223	14	237
Defendant	1	9	10
Total Tried	224	23	247
Under consideration	297	102	399
Total	1,424	606	2,030

SOLICITORS AND BARRISTERS.

A solicitor has the right of audience in all Courts of New South Wales, and the Supreme Court may suspend or remove from the roll any solicitor who has been guilty of misconduct or malpractice.

A candidate seeking admission as solicitor in New South Wales, provided he has not been admitted in the United Kingdom, or in any State of Australia, must have qualified by passing examinations as outlined elsewhere in this Year Book. A solicitor who ceases to practise for two years continuously is allowed to resume practice only under an order from the Court; and a barrister who has been in practice for five years, having caused himself to be disbarred, may be admitted as a solicitor without examination.

The Board for admission of barristers consists of the Judges of the Supreme Court, the Attorney-General, and two elected members of the Bar. Applicants must have been students-at-law for three, or, in the case of graduates, for two years, and have passed all prescribed examinations. A solicitor who has been in practice for at least five years, and who has removed his name from the roll of solicitors, may be admitted as a barrister without examination.

There were, during 1915, 161 barristers practising in New South Wales, and the number of solicitors was 1,073; of the latter, 642 were in the Metropolis.

PATENTS.—COPYRIGHTS.—TRADE MARKS AND DESIGNS.

Since 1st June, 1904, the administration of the statutes relating to Patents, Copyright, and Trade Marks has devolved upon the Federal authorities, and a patent granted under the Commonwealth law is thus afforded protection in all the States, and in the Territory of Papua, the period for which it remains in force being limited to fourteen years. The copyright in a book, the performing right in a dramatic or musical work, and the lecturing right in a lecture, continue for the author's life and fifty years after his death. The British Copyright Act, subject to certain modifications, is in force in the Commonwealth under the Copyright Act, 1912.

The registration of a trade-mark protects it for fourteen years, but may be renewed from time to time. An industrial design may be protected for five years, and the period extended to fifteen years, provided it is used in Australia within two years of registration.

Under the various Federal acts, arrangements may be made for the protection in other countries of patents, copyrights, trade-marks, and designs. In all cases the rights of holders under the legislation of a State were conserved.

A section of the Patents Act, which requires that a patent may be voided if it is not worked to an adequate extent in the Commonwealth, has been suspended during the continuance of the war and six months thereafter.

The Patents Trade Marks and Designs Act, 1914-15, empowers the Minister to suspend the registration of a trade mark, the proprietor whereof is a subject of a State at war with the King; a large number of such registrations have been suspended in favour of the Minister for Trade and Customs, and other persons approved by the Attorney-General of the Commonwealth.

POLICE AND PRISON SERVICES.

DUTIES OF THE GENERAL POLICE.

APART from the preservation of order and the protection of life and property, the general police are charged with a variety of duties, which, though beyond the scope of usual police work, are allotted to them as the most efficient and economical agents—as in the collection of records and statistics, and the pursuit of investigations and inquiries for various branches of the Public Service. Upon the police devolve the tasks of compiling new electoral rolls and jury lists; and of collecting, annually, statistics of pastoral holdings, manufacturing and slaughtering establishments, mills, and private schools. The police also issue timber, fuel, and quarry licenses, miners' rights, business and mineral licenses; and serve as inspectors under a number of Acts.

In some localities the police also act as clerks of petty sessions, gaolers, wardens' clerks, mining registrars, and registrars of births, deaths, and marriages.

POLICE FORCE.

In 1915 there were 675 police stations and a force numbering 2,661 was maintained under the immediate control of an Inspector-General. The following statement shows the distribution of the establishment at 31st December, 1915:—

Classification.	Superintendents.	Inspectors.	Sergeants.	Constables.	Detectives.	Trackers.	Total.
General Police	11	47	547	1,833	...	48	2,486
Detective „ ... ..	...	1	7	5	15	...	28
Water „	1	1	10	28	...	...	40
Traffic „	1	2	9	89	...	...	101
Weights and Measures Office ...	...	...	1	5	...	...	6
Total	13	51	574	1,960	15	48	2,661

In addition to the above, there are five women attached to the police stations as searchers.

Two women police were appointed during 1915; they perform useful duty in regard to women and children.

The Police Regulation (Superannuation) Act, provides that the age of retirement from the police force shall be 60 years, except in the case of the Inspector-General of Police. Under certain circumstances, however, any member of the force may be retained until he reaches the age of 65 years.

Information regarding the Police Superannuation Fund may be found in a later chapter of this Year Book.

The following statement shows that during the last ten years the increases in the strength of the police establishment, exclusive of trackers, have not

been proportionate to the extension of population; the ratio of one policeman to 640 inhabitants in 1906 has changed gradually, so that in 1915 the ratio was one policeman to 715 inhabitants:—

Year.	Number of Police.	Inhabitants to each Policeman.	Year.	Number of Police.	Inhabitants to each Policeman.
1906	2,342	640	1911	2,487	683
1907	2,381	643	1912	2,554	696
1908	2,417	645	1913	2,582	710
1909	2,435	656	1914	2,627	709
1910	2,447	670	1915	2,613	715

REGULATION OF TRAFFIC.

In the metropolitan district the Traffic Police inspect public vehicles, test taximeters, regulate and control the use of motor vehicles upon public streets, besides exercising a general control over all street traffic. The number of persons taken to hospitals by the police in the Metropolitan District as the result of accidents, or illness in the streets, was 1,075.

As regards the services of the police in cases of accident, it is of interest to note that of the total police force of 2,661 men, 579 held First Aid Certificates, and 195 Life-saving Certificates.

Traffic Licenses.

The following table shows licenses granted for vehicles and drivers under the Metropolitan Traffic Act and the Motor Traffic Act during the years 1914 and 1915:—

License or Certificate.	Annual Fee.	Licenses Issued.		License or Certificate.	Annual Fee.	Licenses Issued.	
		1914.	1915.			1914.	1915.
Metrop. Traffic Act—	s. d.	No.	No.	Metrop. Traffic Act—	s. d.	No.	No.
Horse cab ...	20 0	747	736	Motor-van driver..	5 0	22	26
Motor cab ...	20 0	236	235	Horse-bus driver..	5 0	45	37
Horse van ...	20 0	1,615	1,507	Motor-bus driver..	5 0	15	21
Motor van ...	20 0	14	19	Motor Traffic Act—			
Horse omnibus ...	40 0	29	26	Motor vehicle ...	20 0	10,590	12,095
Motor omnibus ...	40 0	9	15	Motor vehicle			
Horse-cab driver..	5 0	917	832	driver ...	5 0	16,078	18,800
Motor-cab driver..	5 0	376	367	Motor cycle ...	2 6	6,369	6,401
Horse-van driver..	5 0	1,897	1,786	Motor cycle rider	Free	8,095	6,602

The revenue obtained under the Metropolitan Traffic Act was £3,740 for the year 1914, and £3,557 for 1915.

The revenue obtained under the Motor Traffic Act was £16,380 for 1914, and £19,518 for 1915. In 1914 an Act was passed imposing a tax on motor vehicles.

INSPECTION OF WEIGHTS AND MEASURES.

In accordance with the Weights and Measures Act, the Bread Act, and the Coal Mines Regulation Act, the inspection of weights, measures, and weighing instruments at traders' premises is a duty of the Police. In 1915 an Act was passed to amend the law relating to Weights and Measures, but its commencement was postponed till 30th June, 1916, pending the provision of new administrative machinery. Transactions during the year 1915 were as follow :—

	Weights, Measures, and Weighing Instruments.			Fees and Fines collected.
	Examined.	Found Correct.	Found Incorrect.	
Weights and Measures Act—				£
Inspected at traders' premises ...	92,983	81,110	11,873	104
Submitted for verification ...	73,391	70,162	3,229	1,236
Bread Act ...	1,096	1,039	57	216
Coal Mines Regulation Act ...	224	213	11	.....

PRISONS.

The aim of the prison system of the State is to educate offenders and to remould their habits, thus enabling them to obtain their freedom and to use it with advantage to themselves and to the community. The idea of imprisonment as punitive or retributive is no longer entertained, but it is considered that the committal of crime demonstrates unfitness to be at liberty; and while not yet attempting to distinguish and eliminate the causes, hereditary or acquired, which tend to produce criminals, the effort is made to segregate the undesirables until they shall have acquired and evinced normal characteristics. To this end sentences of sufficient length are desirable, especially in cases of declared habitual criminals.

Grading of Establishments.

The prison establishments are graded with a view to the concentration of prison population in institutions large enough to ensure efficiency of supervision with economy of administration, and the maintenance of a strict and disciplinary organisation conducive to the highest ideals of reform.

Between 1902 and 1915 the number of gaols was reduced from 60 to 29.

The State Reformatory for Women at Long Bay is occupied by prisoners of all classes, and the State Penitentiary for Men at Long Bay is used as a place of detention for incapables from the city, and as a centre from which long-sentence prisoners are distributed to the principal country establishments, while at the police gaols and lock-ups are detained only prisoners with sentences of less than fourteen days. The Prisoners' Afforestation Camp, Tuncurry, receives selected prisoners (first offenders) after portion of their sentence has been served; and at the Emu Plains Prison Farm, young industrious prisoners, with suitable qualifications are treated on somewhat similar lines.

Classification of Prisoners.

In all the large establishments an inter-classification system is operative, which assures the segregation of the inmates in various classes as to age and conduct.

For several years the principle of restricted association has been in operation, and has yielded results which demonstrate its success. Under present conditions association while at work, at exercise, and at religious instruction, is subject to the closest supervision; cells are lighted, and literature is provided from the prison libraries, which, in December, 1915, contained 23,391 volumes.

Separate treatment is practically abolished.

PRISON POPULATION.

At the end of 1915 there were in New South Wales 29 gaols; of these, 5 were principal, 10 minor, and 14 police gaols.

The number of prisoners in gaol at the close of each year during the last five years will be found below:—

Year.	Under Sentence.		Awaiting Trial.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
1911	1,066	107	68	8	1,134	115	1,249
1912	1,145	112	94	12	1,239	124	1,363
1913	1,295	161	86	9	1,381	170	1,551
1914	1,497	146	86	11	1,583	157	1,740
1915	1,397	185	88	6	1,485	191	1,676

The prisoners under sentence at the end of the year 1915 are exclusive of inebriates, viz., 22 men and 32 women.

The total prison population at the close of 1915 was 1,676. The following comparison shows that though the general population has more than trebled since 1875, the gaol population has increased only 15 per cent. The gaol entries shown in the table represent convicted persons, persons awaiting trial, debtors, naval and military offenders, and persons on remand:—

Year.	General Population at 31st December.	Gaol Entries during Year.	Gaol Population at 31st December.	
			Number.	Per 1,000 of General Population.
1875	594,297	11,832	1,453	2.44
1885	949,570	20,740	2,562	2.70
1895	1,262,270	18,552	2,460	1.95
1905	1,469,153	13,380	1,678	1.14
1910	1,638,220	9,849	1,323*	.81
1911	1,698,736	9,532	1,249*	.74
1912	1,778,962	11,361	1,363*	.77
1913	1,832,456	11,853	1,551*	.85
1914	1,862,028	12,485	1,740*	.93
1915	1,868,644	10,928	1,676*	.90

* Exclusive of inebriates detained.

Ages of Prisoners.

During 1915, 10,928 convicted and unconvicted persons were received into the institutions; of these 6,885, representing 63 per cent., were born in Australia. The following statement shows the grouping according to ages of persons received during the last five years :—

Age Group.	1911.	1912.	1913.	1914.	1915.
Years.					
Under 16 ...	6	9	11	4	4
16-20 ...	597	1,079	1,214	1,092	821
21-24 ...	1,136	1,261	1,252	1,293	1,219
25-29 ...	1,483	1,837	1,911	2,130	1,956
30-34 ...	1,223	1,589	1,671	1,827	1,595
35-39 ...	1,157	1,426	1,479	1,584	1,384
40-44 ...	1,012	1,152	1,366	1,322	1,110
45-49 ...	873	1,082	1,037	1,140	988
50 and over ...	1,710	1,892	1,880	2,043	1,805
Not stated ...	35	34	32	50	46
Total ...	9,532	11,361	11,853	12,485	10,928

TERMS OF SENTENCES.

The following statement shows the terms of sentences of convicted persons received into penal establishments during the years 1914 and 1915 :—

Term of Sentence.	Convicted Persons Received.					
	1914.			1915.		
	Males.	Females.	Total.	Males.	Females.	Total.
1 month and under ...	4,849	1,320	6,169	3,885	1,173	5,058
From 1 to 3 months ...	1,656	275	1,931	1,446	349	1,795
„ 3 to 6 „ ...	691	107	798	712	125	837
„ 6 to 12 „ ...	249	14	263	282	6	288
„ 1 to 2 years ...	173	4	177	187	8	195
„ 2 to 5 „ ...	92	1	93	103	2	105
„ 5 to 10 years ...	6	...	6	7	...	7
Death and Death recorded ...	13	...	13	9	...	9
Unspecified ...	339	7	346	346	5	351
Total ...	8,068	1,728	9,796	6,977	1,658	8,645

Cumulative sentences have been taken as in the aggregate, and concurrent sentences as equal to the longest term. It is noticeable that for 1915, 58 per cent. of sentences are for periods not exceeding one month; and 92 per cent. do not exceed one year. The majority of short sentences have been imposed for breaches of good order, the imprisonment being served in default of fines.

A number of persons in each year are convicted on charges under the Vagrancy Act, and receive sentences ranging up to six months. For many of these, the sentences served under ordinary gaol regulation are unsuitable, their cases being the result of mental or constitutional defect, and it has been suggested that a system of indeterminate sentences be applied in order to assure medical treatment and disciplinary training.

On 31st December, 1915, there were 58 men serving life sentences and 22 men and 1 woman sentences of various periods over 10 years. In most of these cases the sentences have been imposed by the Executive authority in lieu of capital punishment. A "Life Sentence" does not mean any fixed term, but a prisoner may petition for release after serving twenty years; if at the time of conviction his expectation of life is less than twenty-two years, the date of petition is in accordance with a fixed scale.

Licensing of Prisoners.

Persons eligible for remission of sentence for good conduct and industry may be released on license to be of good behaviour.

Licenses operate for the unexpired portion of the sentence and sureties are required. The licensee is required to report periodically, and a breach of the conditions of release may be punished by the cancellation of the license, and recommitment to gaol for the balance of the sentence. During 1915 licenses were granted to 496 men and 22 women.

IMPRISONMENT IN LIEU OF FINE.

Under the Justices Act, 1902, imprisonment for non-payment of an amount adjudged to be paid on order of a Justice may be curtailed by payment of a portion of the fine, for which a proportionate part of the sentence may be remitted, and under the Crimes Act, 1900, and its amendment of 1905, provision is made for the payment of fines in instalments. The following table shows the extent to which diminution in the term of confinement was commuted by money payment during the past five years:—

	1911.	1912.	1913.	1914.	1915.
Persons committed to gaol in default of payment of fines	4,959	5,844	6,016	6,299	5,050
Prisoners subsequently released after paying portion of fines	1,480	1,807	1,407	1,461	1,193
Days prisoners would have served if portion of fines had not been paid ...	41,104	55,835	46,031	57,914	40,505
Days remitted by part-payment of fines ...	30,120	41,000	32,042	25,134	25,950
Amount received at gaol as part-payment of fines £	3,153	4,255	3,387	3,343	2,913

In the year 1915, 58 per cent. of the total persons received into gaol were detained in default of payment of fines at the lower courts; 1,193 subsequently obtained release by paying part fines proportionate with unserved balance of sentence, and an amount of £2,913 was received at the gaols.

IMPRISONMENT FOR DEBT.

During 1915, 48 men and 4 women were imprisoned for debt, but the time of detention, as a rule, extended over a short period, and the number of debtors in confinement at any given time was not large. At the end of the year 1915 there were three debtors in gaol. The number of persons sent to gaol for debt during each of the last ten years is given in the following table :—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1906	57	14	71	1911	33	1	34
1907	42	4	46	1912	32	3	35
1908	43	3	46	1913	31	2	33
1909	40	5	45	1914	56	5	61
1910	34	...	34	1915	44	4	48

CAPITAL PUNISHMENT.

Prior to the passing of the "Criminal Law Amendment Act of 1883," the laws dealing with offences which carried the death penalty were those governed by various Imperial Acts, the provisions of which were adopted in New South Wales, principally by an Act passed by the Legislative Council in the year 1838.

The Constitution Act of 1855 also provided for the retention of "all Laws, Statutes, and Ordinances" which, at the time of passing of that Act, were in force within New South Wales.

The offences subject to the death sentence prior to 1883 were as follows :—

- (a) Murder. (b) Attempt to murder (administering poison or doing bodily injury with intent to commit murder). (c) Rape. (d) Carnally knowing a girl under the age of 10 years. (e) Burglary, with assault, with intent to murder, or stabbing, cutting, wounding, beating, or striking any person being within the dwelling. (f) Robbery, attended with cutting or wounding. (g) Piracy, when murder is attempted. (h) Setting fire to a dwelling-house, any person being within. (i) Setting fire in order to cast away or in any way destroy any ship or vessel, whereby the life of any person shall be endangered. (j) Hanging out false lights to cause shipwrecks.

In the Amending Act of 1883 the penalty for the offence (f) "Robbery attended with wounding or cutting," was altered to that of "penal servitude for life"; in the case of (g) Piracy, the punishment was not mentioned explicitly; and the offences, "Exploding gunpowder or other explosive substance, destroying or damaging any building or placing or throwing any matter or thing upon or across a railway or removing or displacing any sleeper or other thing belonging to a railway with intent in any such case to commit murder," were added to item (i).

The Crimes Act of 1900 embodies such offences punishable by death as are provided for in the 1883 Amending Act.

It is also provided that, in every case of conviction for murder or rape, the sentence of death must be pronounced, but in every other case where an offender is liable to the punishment of death, the judge may abstain from passing such sentence, and direct such sentence to be "recorded," and every sentence so recorded shall have the same effect in law as if it had been pronounced in open Court. Provision is made also for the commutation of capital sentences.

The following table shows the number of convictions, and executions for capital offences, in the State at periods from 1861 to 1915, together with the total number of death sentences pronounced, and sentences of death recorded :—

Year.	Capital Offences.		Death Sentences Pronounced and Sentences of Death Recorded.	Year.	Capital Offences.		Death Sentences Pronounced and Sentences of Death Recorded.
	Convictions.	Executions.			Convictions.	Executions.	
1861	6	2	...	1911	8	...	5
1871	13	3	...	1912	18	1	9
1881	6	2	...	1913	16	...	10
1891	10	3	7	1914	16	...	13
1901	8	3	8	1915	9	...	9

Of the 9 death sentences in 1915, 4 were commuted to penal servitude for life, 2 to twelve years, and 2 to ten years penal servitude, and the other case in which a new trial was ordered was not decided at the end of the year.

SPECIAL TREATMENT.

First Offenders.

When any person, not previously convicted of an indictable offence is convicted for a minor offence and sentenced, the Court may suspend the sentence upon a recognisance, without sureties, for good behaviour during the period covered by the sentence, the probationary term being, however, not less than one year. An examination is made for purposes of identification, and the offender is required to report himself periodically. If his conduct be not satisfactory he becomes liable to imprisonment for the unexpired portion of the sentence; but good behaviour during the whole probationary period will cancel the conviction. During 1915, there were 345 persons, viz., 258 at Magistrates', and 87 at Higher Courts, released as first offenders; of these, 284 were men, and 61 women. These figures do not include children released on probation from the Children's Court, under the Neglected Children and Juvenile Offenders Act, 1905.

The records of prisoners, convicted at the higher courts show that, out of 736 received into gaol during 1915, 410 had not been convicted previously.

At Goulburn Gaol special reformatory treatment is provided for first offenders—useful employment, educational facilities, physical drill, and strict classification in order to prevent the association of prisoners of vicious tendencies. That this plan is an important factor in the deterrent influence of the prison system, is evinced by the small proportion of re-convictions of prisoners passing through the treatment.

Youthful Offenders.

In England, the ages between 16 and 21, or in certain cases 23 years, are regarded as the critical period during which temptation is hardest to resist, and young offenders may reap most benefit from disciplinary and moral influences and industrial training. In New South Wales the upward limit is set at age 25, and a strict line of demarcation is drawn between offenders over and under that age. Offenders under age 25 are classified in age-groups, also according to length of sentence over or under 12 months, and divisional treatment is accorded. Special disciplinary, scholastic, religious, physical training and industrial courses are provided, for the last of which facilities in the form of workshops are available. Great discrimination and special care are necessary to prevent such youthful offenders from becoming confirmed criminals.

Maintenance Confinees.

The Deserted Wives and Children Amending Act, 1913, empowers the Comptroller-General of Prisons to direct a prisoner committed to prison under the Deserted Wives and Children Act, 1901, or the Infant Protection Act, 1904, to perform any specified class of work. An estimate is made of the value of the work performed, and after a deduction for the prisoner's keep, the remainder is applied towards satisfaction of the order for maintenance under the Deserted Wives and Children Act 1901, or for maintenance or expenses under the Infant Protection Act, 1904.

During 1915 the number of maintenance confinees received into gaol was 285, as compared with 332 in the previous year.

WOMEN IN PRISONS.

In August, 1909, the State Reformatory for Women was opened at Long Bay, and to this central institution are sent all prisoners from the metropolitan district, and all long-sentence prisoners from extra-metropolitan districts. At Long Bay an exhaustive system of classification is in force, accommodation being provided by means of 290 separate rooms.

During 1915, 1,734 women were received and 1,701 discharged from Long Bay, the number remaining at end of the year being 174. Approximately 70 per cent. of the women received at all gaols were committed on sentences of one month and less, and consequently presented little opportunity for the application of reformatory measures. The industrial activity of the institution resulted in an output of manufactures, which, with the work of gardening and domestic services, was valued at £2,256. During 1915 the daily average at the Long Bay State Reformatory for Women was 155; and 10 prisoners were punished for breaches of regulations.

In 1915, at all gaols of New South Wales, 1,668 female prisoners were received under sentence, the daily average number being 171.

HABITUAL CRIMINALS AND PREVENTIVE DETENTION.

The Habitual Criminals Act, 1905, empowers a judge to declare as an habitual criminal any person convicted for the third or, in some cases, the fourth time, on account of certain criminal offences, as specified in the Act. A definite sentence is served on account of the offence charged, and subsequently the offender is detained for an indefinite term, until he is deemed fit for freedom.

This system of treatment acts as a deterrent to the existence of professional criminals, and moreover confers an incalculable benefit on society by removing the force of example of criminality. The benefits accruing from the

system of indeterminate sentences, as initiated in New South Wales, have led to its adoption in other communities.

Three men were declared to be habitual criminals during 1915—making a total of 63 men and 1 woman so declared since the inception of the Act. Of this number, 24 men and 1 woman were released on probation, 3 being recommitted to gaol, 5 died, 3 were released on medical grounds, 2 were removed to the Hospital for Criminal Insane, and in 6 cases the declaration of an habitual criminal was remitted. At the end of 1915 there were under detention 15 men who had not yet completed the definite period, and 10 men who had passed into the indeterminate stage.

On the completion of the definite term under the ordinary prison regulations, the habitual criminal passes to the indeterminate stage, which is divided into three grades—intermediate, higher, and special; a minimum period of 4 years 8 months must be spent in the lower grades before the prisoner can gain admission to the special grade wherein cases may be brought under consideration with a view to release. At the end of 1915, 1 prisoner was in the intermediate grade, and 9 were in the higher grade.

On account of the length of the definite terms imposed in some cases, many prisoners have been deprived of the hope of liberty, except at a very advanced age. This fact has given rise to the question as to whether better reformatory results could be obtained if an equal period of definite sentence were fixed for all cases. As release is allowed only on sufficient justification being shown, it is considered that a term of moderate length would meet the purposes of the system, and at the same time encourage good conduct and industry in order to gain release.

An important proviso of the Habitual Criminals Act prescribes that while under detention as an habitual criminal every prisoner must work at some useful trade, and receive at least one-half of the proceeds of his work. As the majority of these persons have not been trained in any branch of skilled labour, facilities are afforded them, while serving the definite term, to acquire training in some remunerative employment, such as brush or boot-making, carpentering, or tailoring.

DRUNKENNESS.

During 1915 the total convictions for drunkenness numbered 25,863. The following table shows the total convictions—that is cases in which convictions were recorded—not distinct persons convicted, during each of last ten years, and their ratio to the mean population:—

Year.	Total Convictions.			Convictions per 1,000 of—		
	Males.	Females.	Total.	Male Population.	Female Population.	Total.
1906	20,589	4,664	25,253	26·64	6·55	17·01
1907	23,573	4,536	28,109	29·86	6·23	18·52
1908	23,730	4,087	27,817	29·59	5·49	18·00
1909	23,616	3,747	27,363	28·86	4·94	17·35
1910	24,450	2,930	27,380	29·10	3·78	16·94
1911	26,295	3,004	29,299	30·28	3·77	17·60
1912	29,264	3,456	32,720	32·05	4·19	18·82
1913	29,153	3,314	32,467	30·65	3·86	17·94
1914	30,135	3,073	33,208	31·04	3·48	17·92
1915	23,224	2,639	25,863	24·16	2·91	13·84

It will be seen that there has been a decided decrease in the convictions of women; this has been most marked in the years immediately succeeding

the enactment of the Liquor Amendment Act of 1905, and the establishment of State institutions for treatment of inebriates in 1907. There is no doubt that the proportions have been appreciably lowered by the detention of women who, though few in number, swelled the record of cases by repeated convictions on the charge of drunkenness.

With regard to the men, the figures showed a decided increase between 1906, when the rate was 26·64 per 1,000 of male population, and 1914 when it was 31·04. The rate in 1915, viz. 24·16 per 1,000, was the lowest during the period, but it should be noted that the offences of soldiers, dealt with by military authorities, are not included in these figures.

THE TREATMENT OF INEBRIATES.

The Inebriates Act has been designed to provide treatment for two classes of inebriates—those who have been convicted of an offence and those who have not in this way come under the cognisance of the law.

For the care and treatment of the latter class, the Act authorises the establishment of State institutions under the control of the Inspector-General of Insane. Judges, police magistrates, and the Master-in-Lunacy are empowered, on application of an inebriate, his relations, or, in special cases, a police officer of superior rank, to order that an inebriate be bound over to abstain from intoxicating liquor for a period not less than twelve months, or that he be placed in a State or licensed institution, or under the care of an attendant controlled by the Master-in-Lunacy, or of a guardian, for a period not exceeding twelve months. Provision is made also to enable an inebriate to enter voluntarily into recognisances to abstain.

With regard to inebriates of the criminal class, the records of the State over a period of years show that practically half the persons who constitute the gaol population at any given date have commenced their criminal career on a charge of drunkenness, and there are many offenders frequently convicted on this charge for whom the short sentence or the imposition of a fine is quite useless as a deterrent.

To meet such cases the Acts provide that where an inebriate is convicted of an offence of which drunkenness is a factor, or of assaulting women, cruelty to children, attempted suicide, or wilful damage to property, and it appears that drunkenness was a contributing cause, he may be required to enter into recognisances to be of good behaviour and to abstain from intoxicating liquor for a period not less than twelve months, during which he must report periodically to the police; or he may be placed in a State institution under the direction of the Comptroller-General of Prisons for a period of twelve months, such period being liable to extension. Inmates are employed in remunerative and useful occupations.

Any person detained in a State institution may be released on license, the conditions imposed on the licensee being good behaviour and abstinence for a stated period. If re-convicted within a year of entering into recognisances, of discharge from an institution, or of release on license, an inebriate may be committed to an institution for a period ranging up to three years.

Special provision has been made at the State Penitentiary for men detained under the Inebriates Act, who have been convicted previously for other offences; since March, 1915, those of the non-criminal class have been treated at a separate establishment, the Shaftesbury Institution. Inebriate women are detained at the State Reformatory, Long Bay.

Transactions at State Inebriate Institutions.

The power of detaining inebriates in State Institutions was first exercised in 1907, and the majority of admissions have been of chronic offenders over 40 years of age who for many years prior to admission had served frequent sentences under the repeated short sentence system, and who in consequence had drifted into a condition from which reformation seemed almost hopeless. In view of this fact the results attained by the operation of the Acts may be considered encouraging. During the period dating from the first reception in August, 1907, to 31st December, 1915, the total number of original receptions amounted to 617—279 men and 338 women. The number of males released on license was 303, and the number of females was 487. In the cases of 115 men and 218 women it was found necessary to cancel the licenses and recommit the holders to institutions.

The following statement shows the number of admissions to, and departures from, the inebriate institutions during 1915 :—

Classification.	Males.	Females.	Total.
In custody at beginning of year	42	57	99
Received from Courts	41	60	101
Discharged after detention ... ..	...	2	2
„ on medical grounds	2	...	2
Released on license	59	82	141
Removed to Hospitals, Asylums, &c. ... ..	...	1	1
Detained at end of year	22	32	54

Of the persons released on license during 1915 from the institutions, 31 obtained employment, 86 were admitted to homes, 4 to hospitals, 17 were released to care of friends, and 3 were sent to other States.

Of 101 persons admitted during 1915 to the institutions, 63 were Australian born, 46 being natives of New South Wales, and of the remainder 34 were British born. The minimum period of detention was twelve months, for which period 52 were committed; those between 1 and 2 years numbered 26, and those over two years 23.

The number of convictions recorded in the various cases were as follows :—

Convictions.	Cases.	Convictions.	Cases.
2-5	10	31-40... ..	6
6-10	12	41-50... ..	3
11-20	33	51-100	11
21-30	20	Over 100	4

The majority of persons admitted during 1915 were over 40 years of age, viz. :—

Under 21, 3 ; 21–25 years, 1 ; 25–30 years, 10 ; 30–35 years, 8 ;
35–40 years, 20 ; 40–45 years, 19 ; 45–50 years, 22 ; 50 years and
over, 18.

The total expenditure on inebriate institutions during 1915 amounted to £3,655, the greater portion of which was on account of administration.

INDUSTRIAL ACTIVITY IN PRISON ESTABLISHMENTS.

Ability to perform useful and remunerative labour is recognised as of equal importance with good conduct in demonstrating fitness for freedom ; and to encourage some degree of skill, employment at industries calculated to inspire interest, and subsequently to prove remunerative, is provided under the supervision of competent instructors.

In 1915 the value of prisoners' labour amounted to £51,915 ; the value of articles manufactured in the gaols was £38,509, comprising materials used £15,331, and prisoners' labour, £23,178.

Agriculture and Out-door Work.

Where land is available, considerable attention is given to agriculture, and offenders under age 25 are specially detailed for this work, which from its nature is recognised as particularly conducive to physical and moral improvement.

A Prison Farm, containing about 107 acres, was established on the banks of the Nepean River at Emu Plains, and since April, 1915, selected first offenders were employed in vegetable growing and general farm work. The farm, however, was discontinued as a place of detention under the provisions of the "Prisons Act, 1899" on 31st August, 1916, and is now under the sole control of the Department of Agriculture. The prisoners are released on license, under conditions to remain at the farm for specified periods.

Afforestation by Prisoners.

The proved efficiency of the system of tree planting by prison labour as carried on in New Zealand has led to its inauguration in New South Wales.

Owing to the slow growth of the native trees in New Zealand afforestation has been adopted, but in New South Wales, where the hardwoods and inland cypress pines reproduce naturally, re-afforestation is the most suitable method.

The site chosen for the prisoners' camp is near Tuncurry, in the North Coast district, where an area of 6,000 acres was selected. In November, 1913, four officers and twenty prisoners commenced operations, and were occupied in fencing, levelling, grass planting, grubbing, well-sinking, &c. In addition, two vegetable gardens covering three-quarters of an acre were prepared.

Between May and September, 1914, the number of pine trees planted by prison labour was 121,896, and in the following season 154,032 were planted.

BREACHES OF PRISON REGULATIONS.

A Visiting Justice is appointed to visit each prison at least once in every week, and Judges of the Supreme Court and Justices of the Peace may at any

time visit and examine any prison. The Visiting Justice is empowered to hear and determine all complaints made against a prisoner for disobeying the rules of the gaol, or for having committed any offence, and to pass sentence of solitary confinement for a term not exceeding seven days. Drastic forms of punishment have been replaced by a policy of deprivation of privileges, and experience shows that the latter method is effective. No corporal nor "dark-cell" punishments have been inflicted for prison offences in New South Wales since May, 1900.

Breaches of prison regulations are rare, the punishments imposed for such infractions of discipline affecting only 1 per cent. of the total number of prisoners received into the gaols during the year 1915; of a total of 225 breaches, 11 were cases of violence to officers, and 20 of idleness. This satisfactory record is attributed to the fact that as far as practicable all the prisoners have been engaged in strenuous manual labour.

SICKNESS AND MORTALITY IN GAOLS.

Visiting surgeons are attached to the various important establishments of which the sanitation and hygiene are on modern lines. Among the persons received into the institutions are included many whose physical condition is deplorable, persons in the last stages of disease, and aged and infirm persons, for whom a hospital or asylum is the befitting destination. Within the institutions cleanly habits are required, and there occur few instances of disease originating after reception; on the other hand there are cases in which disease, apparently originated prior to committal, has grown so serious as to compel the release of the prisoner. Prisoners suffering from tuberculosis receive special treatment.

The medical statistics of prisons show that with an average daily number of 1,725 inmates during 1915, the total number of cases of sickness treated in hospital was 554; 9 prisoners died, and 33 were released on medical grounds.

Particulars in regard to the duration of illness are not available, but details regarding the deaths show 3 from heart disease, 1 from enteric fever, and 5 from other natural causes.

In the following table the number of deaths in gaols, exclusive of those resulting from executions, is given for 1895 and subsequent periods, together with the death-rate per 1,000 of the average number of prisoners in gaols during the year:—

Year.	Deaths.		Death-rate per 1,000 persons in gaols.	Year.	Deaths.		Death-rate per 1,000 persons in gaols.
	Males.	Females.			Males.	Females.	
1895	19	3	8·83	1912	4	2	4·38
1900	15	3	9·02	1913	7	...	4·64
1905	12	1	6·98	1914	7	1	4·70
1910	6	...	4·39	1915	9	...	5·22
1911	11	1	9·27				

INSANITY IN GAOLS.

During 1915, 47 cases of insanity, viz., 45 males and 2 females, were diagnosed among the gaol inmates, of which number 26 showed symptoms on reception and 15 developed them within one month of admission. Seven prisoners were sent to observation wards, 109 persons were received for protection or on charges of mental defectiveness, and 6 were received suffering from the effects of alcoholism.

CONTAGIOUS DISEASES.

Under the Prisoners Detention Act, 1908, prisoners found to be suffering from certain contagious diseases may be detained in Lock Hospitals attached to the gaols. In cases of imprisonment without option of fine, a stipendiary magistrate may cause the prisoner to be detained until certified by the medical officer as free from disease even after the definite sentence is served; but in the case of imprisonment in lieu of payment of a fine, the Act does not provide for detention beyond the specified term of imprisonment.

Owing to this limitation of the Act, no less than 386 cases or more than 29 per cent. were discharged from prison since 1909 while possibly in a contagious state. During 1915, orders for detention in the Lock Hospitals were obtained in the cases of 92 men and 28 women, and, in addition, treatment was given to 134 men and 8 women, for whom orders were not obtained—of the latter, 75 men and 5 women were discharged uncured.

In the following statement are shown particulars of the cases treated since the inception of the Act :—

Year.	Treated.		Discharged.				Remaining in Hospital at end of Year.		
			Free from Contagion.		Not free from Contagion.				
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Total.
1909	132	59	69	*34	46	19	17	6	23
1910	136	20	70	16	47	2	19	2	21
1911	121	27	68	15	38	4	15	8	23
1912	113	31	59	17	26	9	28	5	33
1913	165	29	77	16	54	7	34	6	40
1914	193	32	113	22	49	5	31	5	36
1915	226	36	108	26	75	5	43	5	48

* Includes 2 deaths.

FUGITIVE OFFENDERS AND EXTRADITION.

The Imperial statutes in force in New South Wales for the surrender of fugitive criminals are the Fugitive Offenders Act, 1881, and the Extradition Acts.

Under the Fugitive Offenders Act, 1881, provision is made for the surrender from the United Kingdom to a British possession or *vice versa*, or from one British possession to another, of fugitives charged with the perpetration of crimes which, in the part of His Majesty's dominions where they are committed, are punishable by a minimum penalty of imprisonment with hard labour for twelve months. Persons apprehended under this Act are brought before a Magistrates' Court, and their cases are included in the figures relating to the business transacted at such courts.

During 1915, 42 persons—39 males and 3 females—were arrested in other countries as fugitive offenders, and returned to New South Wales. Of these 5 were discharged, 1 was summarily convicted, and 20 were committed to higher courts, in 4 cases proceedings were discontinued, in 8 cases maintenance orders were made, and the remaining cases were otherwise treated.

The number of persons arrested in New South Wales during 1915 as fugitives from other parts of the British Empire was 28, of whom 25 were males. Of these 3 were discharged, 20 were remanded to other States of the Commonwealth, and 5 to New Zealand.

The Extradition Acts provide for the surrender to foreign States of persons accused or convicted of committing crimes within the jurisdiction of such States, and for the trial of criminals surrendered to British dominions. Treaties for the extradition of fugitives subsist between the United Kingdom and the majority of foreign countries. In proceedings taken in New South Wales under the Extradition Acts the fugitive may be brought before a Stipendiary or Police or Special Magistrate, who hears evidence on oath, and, if satisfied, makes out a warrant for the extradition. At the hearing, the Consul for the country of which the person charged is a subject, the Crown Solicitor, and the Inspector-General of Police are represented. If a warrant be granted, the prisoner is detained for fifteen days prior to extradition, during which interval he may apply to the Supreme Court for a writ of *habeas corpus*. During the year 1915 there was one extradition to Batavia.

PREVENTION OF INFLUX OF CRIMINALS.

In the Commonwealth Immigration Act, 1912, special clauses have been inserted vesting powers in the States to prevent the landing of criminals.

AUXILIARY AGENCIES.

The Prisoners' Aid Association assists released persons to find suitable employment, and acts as trustees of gratuities and moneys earned while in prison. During 1915, 319 discharged prisoners were supplied with food, money, clothing, or lodging, while employment was secured in 99 cases. Formal applications for assistance numbered 431, of which only 34 were refused.

The work of the Association in assisting first offenders with advice or help in obtaining sureties covered 1,661 cases during 1915. Fines amounting to £772 were collected in 477 cases, while sureties for payment of fines, and the necessary bail, were found in many cases, thus assisting a large number to retain their employment.

The principal religious bodies delegate special officers for police court duty, and the work performed by such officers covers every possible form of assistance.

Upon external agencies depend the provision of lectures, entertainments, &c., at the various institutions, but religious and educational work, as already noted, are functions of the system.

In December, 1912, the first issue of the *Compendium*, a monthly newspaper for issue to well-conducted prisoners in the gaols of New South Wales, was published. This paper is edited and compiled under the supervision of the Comptroller-General of Prisons, and, in addition to matters of a non-controversial nature, contains information regarding the demands for labour in various parts of the State.

COST OF POLICE AND PRISON SERVICES.

The following table shows the amount expended in maintaining the police and prison services of New South Wales during the last five years, also the amount of fines paid into the Consolidated Revenue, and the net return from prison labour :—

Expenditure and Revenue.	1911.	1912.	1913.	1914.	1915.
Expenditure—	£	£	£	£	£
*Police	493,638	510,407	574,806	581,044	579,225
Penal establishments	131,632	105,399	106,825	113,305	103,843
Total	625,270	615,806	681,631	694,349	683,068
Revenue—					
Fines paid to Consolidated Revenue	25,637	29,760	29,868	31,350	27,741
Net value of prison labour of a productive character	21,620	20,688	22,614	28,978	38,482
Total	47,257	50,448	52,482	60,328	66,223
Net Expenditure	578,013	565,358	629,149	634,021	616,845
Per Head of Mean Population—	s. d.	s. d.	s. d.	s. d.	s. d.
Police	5 11	5 10½	6 4	6 0	5 11
Penal establishments	1 4	0 11½	0 11½	0 11	0 8½

* Financial year ending 30th June.

SOCIAL CONDITION.

PUBLIC HEALTH.

Laws with respect to immigration, trade, commerce, quarantine, and the provision of old-age and invalidity pensions, are functions of the Commonwealth; whilst matters pertaining to public health (other than quarantine), to the maintenance of high standards in regard to food, to the supervision of sources of supply and distribution, and to the enforcement of sanitary and hygienic conditions are functions of the State Government.

Practical measures to promote the well-being of the people, through the prevention or relief of sickness and destitution, are directed by the State towards the protection of infant life, the removal of children from unsuitable environments, the housing and care of mental defectives and of the aged and infirm, and the enactment of laws to safeguard the public from preventable disease. State establishments are maintained for the alleviation of sickness and destitution, and many institutions controlled by private organisations are assisted with Government subsidy.

DEPARTMENT OF PUBLIC HEALTH.

The Department of Public Health undertakes the general medical work of the Government, safeguards public health, and advises Local Government bodies. Acts relating to public health, hospitals, pure food, supervision of dairies and dairy cattle, noxious trades, sanitation, cattle slaughtering and diseased animals and meat, are administered by the Department, and the various State hospitals and asylums are under its control.

The institution of a separate ministerial portfolio for the Department of Public Health in April, 1914, and the amendment of the Public Health Act in the following year were important factors in the reorganisation of the State Health administration. The Amendment Act extended the powers of the Department for preventing the spread of tuberculosis and other diseases, and for regulating sanitation in local government areas, in factories and shops, and in premises licensed under the Liquor Act.

The Board of Health consists of ten members, nominated by the Government, with the President, who is Director-General of Public Health, and Chief Medical Officer to the Government. Several other Boards have been established in connection with the Public Health Department, such as the Tuberculosis Advisory Board, to furnish expert advice for the treatment and prevention of tuberculosis; the Metropolitan Hospitals Advisory Board, consisting of the secretaries of the hospitals, to co-operate with the Department in matters concerning hospital administration; the Pre-Maternity, Baby Clinics, and Home Nursing Board, to organise measures with the object of lessening the infantile death rate, and safeguarding the health of women and children generally.

In July, 1908, the laboratory of the Public Health Department, hitherto used for investigation regarding hygienic conditions, and infectious diseases of human beings and animals, was constituted as a Bureau of Microbiology, and its functions were extended to embrace matters pertaining to parasitic and microbic diseases of plants and stock; also to farming and other problems in connection with the industrial development of the State. In

August, 1913, the bacteriological and chemical work affecting agriculture was transferred to the Department of Agriculture, and the Bureau now deals exclusively with matters directly appertaining to public health.

The State institutions under the control of the Director-General of Public Health include the Coast Hospital, for the treatment of general and infectious cases; the Leper Lazaret; David Berry Hospital, in the Shoalhaven district; Lady Edeline Hospital for Babies; Sanatorium for Consumptives at Waterfall; two Convalescent Hospitals; and five Asylums for the Infirm, which, since the inauguration of the old-age and invalidity pension system, are utilised to a great extent for the treatment of the sick.

STATE EXPENDITURE ON HOSPITALS AND CHARITABLE RELIEF.

The State expenditure on hospitals and charitable relief, including grants to National Relief Funds, for the year 1915-16, amounted to £993,897. The expenditure includes the cost of maintenance of State institutions and departments administering relief, and subsidies to other institutions—granted on condition that an equal amount be raised by private annual contributions, and that the Government through approved officers have the right of recommending the admission of patients. The following is a statement showing the growth of expenditure in the five years ended 30th June, 1916:—

Payments from—	1912.	1913.	1914.	1915.	1916.
	£	£	£	£	£
Consolidated Revenue ...	593,030	693,090	734,511	826,549	924,563
Public Works Account ...	48,755	87,857	52,919	44,780	69,334
Total ...	£ 641,785	780,947	787,430	871,329	993,897

Grouping the items of expenditure from the Consolidated Revenue Fund under various headings, a comparison of the respective items for the last two years is shown below:—

	1914-15.	1915-16.
	£	£
General Hospitals and Charitable Institutions ...	202,552	205,797
Mental Hospitals and Institutions ...	267,715	308,507
Children's Relief ...	127,095	156,953
Government Asylums for the Infirm ...	104,601	116,916
Destitute and Deserted, Sick and other ...	53,383	46,864
Aborigines Protection ...	17,420	18,351
Charitable Societies ...	3,754	10,737
National Relief Funds ...	44,049	52,062
Miscellaneous ...	5,980	9,276
Total ...	826,549	924,563

To these figures are to be added the cost shown subsequently of State subventions to Friendly Societies, the maintenance of the Department of Public Health, and similar agencies for the public benefit.

PROTECTION OF THE ABORIGINES.

For the protection and training of the aboriginal natives in New South Wales, a Central Board was appointed in June, 1910, under the Aborigines Protection Act, 1909, replacing local boards in the various districts of the State. All officers in the police force of the State are guardians of the aborigines, and two inspectors have been appointed to supervise the reserves and stations. The Central Board, consisting of the Inspector-General of

Police, and a maximum of ten other members appointed by the Governor, controls the disbursement of moneys available for the education, maintenance, and relief of the aborigines.

The area of the reserves for aborigines was 23,839 acres at the end of December, 1915. At the various stations and camps the residents are encouraged to work; dwellings have been erected, and assistance in the form of food and clothing is supplied when necessary; the stations are under the control of managers appointed by the Board.

Aboriginal children are required to attend school until the age of 14 years, and they may be apprenticed under supervision. The Board is authorised to assume control of the child of any aboriginal, and may apprentice children or place them in training homes. Several schools have been established exclusively for the use of aborigines. In 1915 there were 1,081 aboriginal children attending school. Arrangements have been made for the inspection and treatment of children attending aboriginal schools by the medical officers of the Department of Education.

At the census taken on 2nd April, 1911, there were 2,022 full-blooded aborigines in New South Wales—viz., 1,157 males, and 865 females.

On 1st September, 1915, there were under the control of the Board 6,580 aborigines, viz., 1,597 full-bloods, and 4,983 half-castes. The following statement shows the classification as recorded at that date:—

Aborigines.	Adults.		Children.	Total.
	Males.	Females.		
Full-bloods	679	438	480	1,597
Half-castes	1,217	938	2,768	4,983
Total	1,896	1,436	3,248	6,580

The ages of these aborigines were as follows:—Under 20 years, 3,248; 20–40 years, 1,949; 40–60 years, 1,036; over 60 years, 347.

The expenditure during 1915 amounted to £26,961, including £18,339 for general maintenance, £2,273 for the purchase of blankets, clothing, &c., £2,078 as disbursements from the Board's produce and sale store account, £3,198 for educational purposes, £991 for medical attention, and £82 for other services. An amount of £2,391 was received as revenue from sales, so that the net expenditure was £24,570.

CHILD HYGIENE.

The law of New South Wales relating to the protection of children, and to the conditions of child-life, is contained for the most part in the following statutes:—State Children Relief Act, 1901; Deserted Wives and Children Act, 1901, and Amendment, 1913; Children's Protection Act, 1902; Infant Protection Act, 1904; and Neglected Children and Juvenile Offenders' Act, 1905.

Under the State Children Relief Act, the Controlling Board has power to board-out children who are inmates of an asylum or charitable institution, wholly or partly supported by grants from the public revenue, also children whose admission to such institutions has been authorised. The Board may issue licenses for the reception of these children as boarders, may apprentice them to suitable persons, or arrange for their adoption or restoration to parents or natural guardians. Children may be boarded-out with their own mothers. The period of boarding-out usually terminates at 12 years of age; but in special cases it may be extended to age 14. At the end of the boarding term the children may be apprenticed for a maximum term of five years.

The Children's Protection Act regulates the adoption of young children. The reception of a child under 3 years of age, to be maintained for payment apart from his parents or guardians, is allowed only on the written authority of a Justice of the Peace; persons who receive two or more children under 3 years of age must apply annually for registration; the children, and the premises of persons having custody of them, are subject to inspection by the officers of the State Children Relief Board; persons in charge of maternity homes must furnish records of all births occurring in the homes; the employment of young children in dangerous or unsuitable occupations is prohibited; and provision is made for the protection from neglect or ill-treatment of any boy under 14 years of age, or of any girl under 16 years.

The Infant Protection Act regulates the protection and maintenance of infants, and the supervision of institutions used for the reception of children up to 7 years of age. The Act provides for the payment by the father of expenses, up to a maximum amount of £20, incidental to the birth of an illegitimate infant, and for the maintenance of the child up to the age of 14 years, if a boy, and to 16 years if a girl. The mother also may be required to contribute towards the maintenance of an illegitimate infant. Cases in respect of the provisions of the Act are heard at the Children's Courts, and disobedience of an order of the Court may be punished by imprisonment. Institutions used for the reception and care of children under 7 years of age must be licensed, and are subject to inspection by officers of the State Children Relief Board.

The Deserted Wives and Children Act, which relates to the maintenance of wives and legitimate children, provides that a man who has left his wife or child without means of support may be ordered to contribute towards their maintenance, and may be required to enter into recognisances for the performance of the order. In default of finding security he may be imprisoned for a period not exceeding twelve months; non-compliance with a maintenance order may be punished by imprisonment. An important amendment of this Act, passed in 1913, prescribes that any person committed to prison for failing to find security, or for non-compliance with an order under the Deserted Wives and Children Act, or the Infant Protection Act, may be required to perform work, the earnings, after deducting his cost of living, being applied to the satisfaction of the order. The Act provides also that in cases of wife desertion the court may place any child of the marriage under the legal custody of the wife, or other approved person, and may order the husband to contribute towards the child's maintenance; similar procedure is authorised in cases of child desertion. Orders in respect of children cease at age 16.

The Neglected Children and Juvenile Offenders Act authorises the establishment of shelters for the temporary detention of children, and provides for industrial schools and reformatories. Special courts were established to deal with cases in respect of children over 5 years and under 16 years of age, and of offences by and against children, and with affiliation cases under the Infant Protection Act. In 1913 the jurisdiction of the Children's Courts was extended to complaints under the Deserted Wives and Children Act. Where practicable the Children's Courts must be held in proximity to a shelter, and not in the ordinary Courts; persons not directly interested may be excluded from the court-room. In the disposal of children the Courts may release on probation to an asylum or person willing to undertake care, may commit to an institution, or may sentence according to law, in which case the child may be detained in a reformatory for a term ranging from one to five years. Pending removal to an institution, children may be placed in a shelter for a maximum term of three months; children in an institution may be removed to another institution or to an asylum,

or may be apprenticed or transferred to the State Children Relief Board for boarding-out. Children released on probation, or sent to an asylum, are supervised by probation officers.

The Neglected Children and Juvenile Offenders Act regulates also the issue of licenses to children engaged in street-trading, this part of the Act being administered by the State Children Relief Board.

The Juvenile Smoking Suppression Act of 1903 restricts the use of tobacco by juveniles. Any person who supplies a child under 16 years of age with tobacco, cigars, or cigarettes is liable to a fine of £5.

Under the provisions of the Liquor Act, children may not be supplied with intoxicating liquor, nor allowed in the bar of licensed premises, nor sent to licensed premises to obtain liquor.

The laws relating to factories and shops, and to apprenticeship, &c., regulate the conditions of child labour. Particulars are shown in the chapters of this volume relating to the manufacturing industry and employment.

The Testators' Family Maintenance and Guardianship of Infants Act, 1916, assures to the widow or widower and children of a testator an adequate maintenance from the estate, and amends the law regarding the guardianship of infants. An important provision provides that after the death of the father of an infant the mother shall be guardian notwithstanding any appointment made by the father.

The Public Instruction Act was amended in 1916 to render the laws relating to truancy more effective.

THE STATE CHILDREN RELIEF BOARD.

The State Children Relief Board is charged with the administration of the State Children Relief Act. The Department also administers the Children's Protection Act, and supervises institutions licensed under the Infant Protection Act, and children placed under its jurisdiction by the Children's Courts as boarded-out wards, children on probation, or inmates of institutions. The Board's officers undertake also the licensing of children engaged in street-trading, and the supervision of the school attendance of all children subject to enrolment at State schools.

The total number of children under supervision by the officers of the Board in terms of the various Acts, at 5th April, 1916, was 16,025, as compared with 15,081 in the previous year:—

	1914.	1915.	1916.
Boarded out apart from their mothers	4,695	4,880	5,081
" with their mothers	5,970	6,612	7,310
In foster homes licensed under Children's Protection Act ...	925	925	693
In institutions licensed under Infant Protection Act ...	331	535	500
Engaged in street trading	477	680	695
Employed in theatres	280	265	180
Released on probation	1,213	1,184	1,566
Total	13,891	15,081	16,025

The supervision of these children is undertaken by salaried inspectors, whose efforts are supplemented by honorary officers. Women inspectors, charged specially with the supervision of the conditions of infant life, visit and inspect infants placed out apart from their mothers; and the regulations prescribe that all such infants in the Metropolitan area must be submitted to medical examination every fortnight during the first twelve months of life.

EXPENDITURE OF STATE CHILDREN RELIEF DEPARTMENT.

The gross amount expended by the Government during the year ended April, 1916, on account of the services of the State Children Relief Department, was £156,631; of this amount £57,996 represented the cost of maintenance of children boarded-out apart from their parents, while allowances

to widows and deserted wives towards the support of their children amounted to £70,988. Contributions by parents and relatives and repayments of maintenance allowances amounted to £3,736, being £375 less than in the previous year. The Department experiences the need for comprehensive and remedial legislation to enable the recovery of maintenance contributions from any near relative of a destitute person.

The following statement shows the expenditure of the State Children Relief Department since 1901:—

Year ended April.	Expenditure by Government.					Contributions by Parents and other Revenue.	Net Expenditure by Government.
	Boarding-out.		Cottage Homes.	Children's Protection and Neglected Children's Acts and Supervision of School Attendance.	Total.		
	With Mothers.	Apart from Mothers.					
	£	£	£	£	£	£	£
1901	41,322	18,775	3,069	66*	63,232	1,442	61,790
1906	38,573	22,835	4,621	1,459*	67,488	1,727	65,761
1911	44,193	29,152	11,085	9,634	94,064	3,712	90,352
1912	46,001	33,743	13,242	10,187	103,173	4,361	98,812
1913	50,680	44,461	12,541	8,972	116,654	5,884	110,770
1914	56,127	54,975	11,496	9,785	132,383	6,371	126,012
1915	52,940	61,890	9,962	9,654	134,446	6,194	128,252
1916	57,996	76,989	11,599	10,047	156,631	6,357	150,274

* Children's Protection Act only.

THE PRESERVATION OF INFANT LIFE.

Reference to the chapter of this volume relating to vital statistics will show that a large number of deaths of infants are due to preventable causes. With the object of reducing this wastage, preventive measures were commenced by the Sydney Municipal Council in 1904, and trained female inspectors were appointed to visit mothers and to instruct them. This work was extended subsequently to the more populous suburbs.

Baby Clinics.

In 1914 the Baby Clinics, Pre-Maternity and Home-Nursing Board was appointed by the Government as an Advisory Board to establish organisations in the Metropolis and large country centres, to supply advice and instruction in the care and nurture of infants.

The Board consists of eight members, including three women and two medical practitioners. At the end of 1916 ten clinics had been opened in the most thickly-populated suburbs of Sydney, and one in Newcastle; those at Alexandria and Newtown continue the work conducted previously by a private organisation—the Alice Rawson School for Mothers. Early in 1917 a clinic was established at Wallsend, in the Newcastle district.

There are an honorary medical officer and two nurses attached to each clinic; the nurses instruct the mothers, and make arrangements for medical treatment when necessary; dental defects of children up to 5 years of age are treated at the dental hospital. Particulars relating to the work of the clinics during 1916 are shown below:—

Patients seen by doctor	... 5,129	Cases—Ophthalmia	... 525
" sent to hospital	... 1,607	Gastro-enteritis	... 3,174
Total attendance at Clinics	... 50,939	Miscellaneous	... 27,008
Babies weighed	... 36,704	Pre-maternity	... 647
New born babies visited	... 8,951		
Subsequent visits	... 9,667		

Notification of Births.

The Notification of Births Act, which is operative only in districts to which it is applied by proclamation, was passed in February, 1915, to provide that a written notification of every birth must be sent within a prescribed period to the Under Secretary of the Department of Public Health, or other authorised person. Previously the Health authorities were dependent upon the notification of births to the Registrar-General in connection with which a period of sixty days is allowed; consequently the benefits of the baby clinics were not applied during the period when they might have been most effectual.

The Act was proclaimed in Sydney and Newcastle and their more populous suburbs, and in these areas a notification must be sent within thirty-six hours after birth.

Maternity Allowances.

The payment of maternity allowances to mothers of children born in Australia was provided by the Maternity Allowance Act, passed by the Commonwealth Parliament in 1912. A sum of £5 is payable in respect of each birth taking place in Australia after the commencement of the Act, one allowance only being payable in cases of plural births. The allowance is payable to women who are inhabitants of the Commonwealth or who intend to settle therein; Asiatic women and aboriginal natives of Australia, Papua, and the Pacific Islands are excluded from the benefits of the Act.

The following statement shows number of claims for maternity allowances passed for payment in each State from 10th October, 1912, the date when the Act came into operation, to 31st December, 1916:—

State.	1912. (From 10th Oct.)	1913.	1914.	1915.	1916.	Total.
New South Wales ...	5,604	51,564	53,690	52,028	51,992	214,878
Victoria	4,763	36,636	36,571	34,707	34,578	147,255
Queensland	2,211	19,709	20,298	19,801	18,931	80,950
South Australia ...	1,366	12,484	13,107	11,640	11,912	50,509
Western Australia ...	806	9,305	9,404	8,835	8,575	36,925
Tasmania	758	5,969	6,089	5,761	5,669	24,246
Total... ..	15,508	135,667	139,159	132,772	131,657	554,763

Infants' Homes.

Homes licensed under the Infant Protection Act are classified in two groups—those for the reception of five or less children, being generally private homes, and those for six children or more, mainly institutions of a charitable nature for the care of infants.

The number of licensed places during the years 1907-15 is shown below:—

Year.	Private Dwellings Registered.	Institutions.	
		Number.	Inmates under 7 years of Age.
1907	97	13	189
1908	124	14	170
1909	145	15	251
1910	137	15	238
1911	144	17	263
1912	155	19	229
1913	173	21	331
1914	184	21	309
1915	81	20	389

With the exception of the Infants' Home, Ashfield, subsidised by the Government, the institutions are supported entirely by voluntary contributions.

The Sydney Benevolent Asylum, for the reception of children, operates under a special Act, and is exempted from the provisions of the Infant Protection Act.

The twenty institutions licensed during 1915 provided accommodation for 529 children, but the provisions of the Act apply only to those under age 7; the number in each age group is shown below:—

Age group.	Number.	Age group.	Number.
Under 1 year	53	5-6 years	63
1-2 years	54	6-7 years	74
2-3 years	47		
3-4 years	39	Total	389
4-5 years	59		

Three Homes for Mothers and Infants are maintained in the metropolitan area under the direction of the State Children Relief Department. They were established on the principle that the accommodation of a small number of inmates in a cottage home is more efficacious for the preservation of infant-life than the aggregation in large institutions. During the year ended 5th April, 1916, 140 mothers and 223 infants were treated; 6 infants died; and 105 mothers and 176 infants were discharged.

The Lady Edeline Hospital for Sick Babies, under the direction of the Public Health Department, provides accommodation for children up to 2 years of age suffering from gastro-enteritis and other diseases peculiar to infancy. The children admitted during 1915 numbered 288, of which 204 were suffering from gastro-enteritis; there were 71 deaths.

Registrations under Children's Protection Act.

The number of children registered under the Children's Protection Act, during 1915 was 1,268, and at 31st December there were 758 under supervision; 180 theatre licenses for children were issued, as compared with 265 during the previous year. Theatre licenses may be issued to children over 10 years of age in the metropolitan area, but those under 14 years are not permitted to travel with touring companies. Strict supervision is necessary to protect the interests of children engaged in this class of work.

The transactions under the Children's Protection Act during the years 1911-15 may be seen in the following statement:—

Particulars.	1911.	1912.	1913.	1914.	1915.
Registrations from Lying-in Homes ...	3,796	2,830	4,430	7,884	8,064
Foster Homes registered	71	95	82	140	126
Children registered	1,188	1,215	1,447	1,648	1,268
„ died	62	41	41	59	52
„ discharged from supervision ...	567	491	481	664	523
„ under supervision at 31st Dec....	559	683	925	925	693
Theatre Licenses for Children	216	321	280	265	180

Of the children under supervision during 1915 the deaths numbered 52, the principal cause of death being gastro-enteritis, 38.

DEPENDENT, NEGLECTED, AND DELINQUENT CHILDREN.

Since its inception in 1881, 24,630 children have been placed under the control of the State Children Relief Board to be boarded-out apart from their parents. Of this total 19,549 children had been removed from the

control of the Board, so that there were 5,081 remaining under its charge on 5th April, 1916, of whom 3,029 were boys and 2,052 were girls. In addition the Board was paying allowances towards the support of 7,310 children living with their mothers, who are widows or deserted wives; thus the total number of children under the supervision of the Board, in terms of the State Children Relief Act, was 12,391.

Children maintained apart from parents.

The State wards are boarded out to persons deemed to be eligible after strict inquiry by the Board, the maximum number of children under the care of one guardian being three, except in cases of families comprising a greater number, brothers and sisters being placed usually in the same home. Strict supervision is exercised by the officers of the Board to prevent ill-treatment or neglect, and visiting ladies voluntarily assist in the various districts, keeping a constant watch upon the children, and the conditions under which they live. The distribution of the children provided for apart from their parents at 5th April, 1916, was as follows:—

Classification.	Boys.	Girls.	Total.
Boarders	1,839	1,301	3,140
Without subsidy	60	71	131
Apprentices	599	426	1,025
Adopted	53	97	150
In Hospitals	46	16	62
Cottage Homes	314	94	408
Depôt	18	23	41
Absconded	95	20	116
Unofficial	4	4	8
Total	3,029	2,052	5,081

The Central Depôt for State Children at Paddington is used as the reception-house into which children, under the Board's control, are received from their parents, and from the police or inspectors who may have rescued them from unsuitable surroundings. It serves also for the housing of State children in transit from one foster home to another, and as a shelter in connection with the Children's Court for girls and for boys under 7 years of age. Excluding children admitted in connection with the operations of the Children's Court, 1,709 wards of the State Children Relief Board passed through the depôt during the twelve months ended 5th April, 1916.

The number of children who were wards of the State Children Relief Board is shown in the following table, at five-year intervals since 1881:—

Year ending April.	Boys.	Girls.	Total.	Year ending April.	Boys.	Girls.	Total.
1881	24	35	59	1901	2,205	1,705	3,910
1886	779	587	1,366	1906	2,114	1,776	3,890
1891	1,417	952	2,369	1911	2,551	1,947	4,498
1896	1,954	1,502	3,456	1916	3,029	2,052	5,081

The following table shows, for a period of five years, the ages of children when received by the Board for boarding out:—

Age.	Year ending April—				
	1912.	1913.	1914.	1915.	1916.
Under 1 year ...	191	170	188	186	116
1 year ...	72	71	85	84	118
2 years ...	66	48	55	54	62
3 " ...	46	42	46	48	60
4 " ...	45	40	49	47	65
5 " ...	45	55	49	50	71
6 " ...	56	53	48	51	62
7 " ...	52	53	50	52	74
8 " ...	49	53	75	72	73
9 " ...	54	58	59	52	99
10 " ...	85	58	82	81	130
11 " ...	93	87	74	78	129
12 " and over ...	285	290	217	214	296
Unknown ...	30	31	127	126	104
Total ...	1,169	1,109	1,204	1,195	1,459

Of the 1,459 children received by the Board during 1915-16, 499 were committed from the Children's Courts, 57 were transferred from the Sydney Benevolent Asylum, 93 from other institutions, and 24 were received from the police, while 786 were boarded-out direct from the State Children's Depot.

There has been a marked increase in the number of children placed under the direct control of the Board as a result of the operations of the Neglected Children and Juvenile Offenders Act.

Children boarded-out with their mothers.

In April, 1916, 2,545 widows and deserted wives were receiving allowances towards the support of 7,310 children under 14 years of age. The new cases during 1915 numbered 1,492; aid was granted in 955 cases, and refused in 537. The mothers receiving allowances in April, 1916, were 1,443 widows, 523 deserted wives, and 579 wives deprived of their husbands' support through insanity (191), imprisonment (124), detention in hospital (186), or in asylum for infirm and destitute (78). There is no law in operation in New South Wales to compel relatives, other than parents, to contribute towards cost of maintenance.

Payment for Children Boarded-out.

The rates of payment for children boarded-out, as prescribed by regulation, are 7s. per week for children under 3 years of age, and 5s. per week for children between 3 years and 14; the board may modify or increase the rates at their discretion.

Of 7,310 children boarded-out with their mothers the allowances in respect of 4,524 were at the rate of 5s. per week, 8 were at higher rates, and the others varied from 4s. 6d. to 2s. per week. Of 3,140 boarders apart from parents, 2,751 were paid for at the rate of 5s. and under per week, and 389 at rates ranging from 6s. to 10s.; there were 131 boarders without subsidy.

Cottage Homes for Children.

Cottage homes have been established by the State Children Relief Board for State children requiring special treatment. The homes form a valuable

adjunct to the boarding-out system; there are now eleven at Mittagong, and three in the Pennant Hills district, near Parramatta, all situated amid rural surroundings. At Mittagong six of the cottages form the Farm Home; two are occupied by feeble-minded boys, and one by crippled boys, the remainder are used for sick and debilitated children; and at Parramatta one home is for feeble-minded girls, and two for delicate children.

The Farm Home at Mittagong provides suitable industrial occupation and training for boys committed from the Children's Court for reasons which do not warrant the more drastic measure of detention in a reformatory. The boys are taught bootmaking, carpentering, blacksmithing, and general farm-work; and the products of the farm are available for the children in the Cottage Homes. The number of boys under supervision in the Farm Home at 5th April, 1916, was 235.

The admissions to the Cottage Homes and the discharges during the last ten years were as follows:—

Year ended 5th April.	Admissions.	Discharges.	Year ended 5th April.	Admissions.	Discharges.
1907	306	271	1912	555	517
1908	392	325	1913	534	526
1909	465	406	1914	518	490
1910	444	525	1915	565	497
1911	370	383	1916	634	627

On 1st April, 1916, 401 children remained in the various Homes, 322 boys and 79 girls.

In addition to the Cottage Homes there is a home at Raymond Terrace for feeble-minded boys who are not suitable for boarding with private families; 33 boys were admitted during the year, and 31 discharged, 29 being under supervision at 5th April, 1916.

Permanent Adoption of Children.

The State Children Relief Act provides that orphan children, or those who have been surrendered for adoption, may be adopted for life; the permanent adoption of 150 State wards—53 boys and 97 girls—has been arranged by the State Children Relief Board; and 60 boys and 71 girls are boarded without subsidy. The law, however, does not forbid private arrangement of adoptions, and many are arranged without the cognisance of the Board.

Apprenticeship of State Children.

The following statement shows the number of apprentices placed by the Board during the five years ended 5th April, 1916:—

	1912.	1913.	1914.	1915.	1916.
Boys ...	288	220	298	257	155
Girls ...	183	103	174	162	90
Total ...	471	323	472	419	245

At the end of April, 1916, there were 1,025 apprentices (599 boys and 426 girls) under indentures. The terms of indenture prescribe a wage payment and pocket-money on a specified scale, the wages being banked half-yearly to the credit of the apprentice; one-third of the accumulated amount

is paid over on completion of the apprenticeship, the balance remaining at interest till age 21 is attained, unless exceptional circumstances arise before this time, when the Board may allow the money to be paid earlier. From 1887 to April, 1916, the total collections of the Apprentices Fund were £85,708, of which £70,222 had been paid over on completion of the indentures, and £15,486 remained to the credit of the fund, the collections for the year having been £4,108. The majority of the girls are apprenticed in domestic service, and the boys to farmers, orchardists, and artisans in country districts; as a preliminary to the apprenticeship system, and to give opportunity for the children in a wider range of industrial occupations, training homes are essential.

Reformatories and Industrial Schools.

The number of children sent to reformatories has diminished considerably since the development of the probationary system; such institutions are needed, however, for a certain number of delinquents who show positively criminal tendencies. In addition to the Farm Home at Mittagong, where truants and minor delinquents are detained for short periods, there are two State institutions, viz., the Farm Home for Boys at Gosford, and the Girls Industrial School at Parramatta, to which a training home is attached.

The Gosford Home replaced the Nautical School Ship "Sobraon," and the Brush Farm for Boys, and is used for the reception and treatment of the older juvenile offenders. The work of establishing this institution was commenced in July, 1912, and the labour of the boys was utilized largely in clearing the site, which was practically virgin forest, and in constructing the necessary buildings, &c. The plan of the institution was designed to allow the inmates to be classified and segregated; for this reason it would be suitable for the reception of youths from 16 to 20 years of age, who, under existing legislation, are received in prisons.

In connection with this phase of the reformatory system, a number of youths between the ages 16 and 18 years have been transferred under license from the gaols to complete their term of detention at the Gosford Farm Home.

During the year 1915, 88 boys were admitted, and 84 discharged; of the latter 8 were apprenticed principally in the country, 63 were released on probation, and 2 were transferred to the Mittagong Farm Home.

At the Girls' Industrial School a training home was established in 1912, to enable a more effective classification of the inmates. On 31st December, 1915, there were 140 girls in the institution—118 in the Industrial School and 22 in the Training Home; 64 girls were admitted during the year, and 69 were discharged.

There are a number of institutions conducted by religious bodies and other organisations, in which destitute children are placed by their natural guardians in preference to boarding-out. These institutions receive a small number of children from the Children's Courts, and at the end of the year 1915, supported 1,708 children:—

Institutions.	Boys.	Girls.	Total.
General Public	180	132	312
Church of England	16	174	190
Roman Catholic	293	717	1,010
Methodist ... ..	...	15	15
Presbyterian	64	31	95
Salvation Army ... ..	...	...	86

Children's Courts.

The majority of cases in respect of neglected children and juvenile offenders are conducted at the Metropolitan Children's Court, the transactions in the Country Children's Courts being comparatively few. Two shelters have been established in Sydney in connection with these Courts; they are used for the detention of children apprehended by the police, or awaiting decisions of the Courts, or due for transfer to institutions to which they have been committed; they serve also for the detention of those sentenced to imprisonment in default of payment of fine, or on remand for discipline, medical examination, or other inquiry.

As the number of girls passing through the Shelter is small, the work is conducted at the Central Dépôt for State Children, where also boys under 7 years of age are received. The shelter for boys over 7 years is attached to the Metropolitan Children's Court.

A medical officer from the Department of Education examines juvenile offenders, prescribes treatment, and advises the magistrate where delinquency is the outcome of physical or mental disability. During the year ended 5th April, 1916, 562 boys were examined at the Shelter, 271 were found to be suffering with physical defects, and recommended for hospital treatment; tested by the Binet-Simon method, the mental capacity of 204 of these boys was below normal.

During the year ended 5th April, 1916, the number of children brought before the Metropolitan Children's Court was 1,948, of whom 1,734 were boys and 214 were girls; 469 were uncontrollable children; 291 were neglected or under improper guardianship; 134 were charged with breaking conditions of release on probation, 641 with stealing or breaking, entering and stealing, and 413 with other offences. The proved cases numbered 1,515, excluding those of a minor character, which were formally withdrawn on payment of costs to avoid the record of a conviction. The disposal of the children brought before the Court is shown in the following statement:—

Disposal.	Uncontrollable Children.	Children neglected or under improper guardianship.	Breach of terms of probation.	Other offences.	Total Children.		
					Boys.	Girls.	Total.
Released on Probation to Parents	279	98	..	675	995	56	1,051
Do do do Other persons	28	21	..	33	64	18	82
Committed to care of State Children's Relief Board.	3	21	..	1	14	11	25
Do do do Ormond House, Paddington.	15	47	5	7	37	37	74
Do do do Farm Home, Mittagong	75	3	57	52	187	..	187
Do do do Farm Home, Gosford ..	8	..	1	19	28	..	28
Do do do Industrial School, Parramatta.	22	12	10	6	..	50	50
Do do do Private Institutions ..	5	2	..	4	6	5	11
Fined .. ..	..	..	..	7	7	..	7
Withdrawn	28	57	60	171	287	29	316
Dismissed or Discharged	7	30	1	79	109	8	117
Total	469	291	134	1,054	1,734	214	1,948

Further particulars regarding offenders charged at the Children's Courts are given in the chapter of this volume relating to Law Courts.

Release on Probation.

The probationary system by which truants and other juvenile offenders are released under supervision has proved a more effective measure for the reform of juvenile delinquents than the former method of committing them to institutions. Where parental control has been lax, or home conditions

unsatisfactory, the children may be released to the care of their parents, whose supervision is supplemented by periodic investigation by probation officers; where natural guardians are unfit or incompetent the children may be placed under the care of other persons.

At 5th April, 1916, there were 1,566 children under probation from the Children's Courts, 1,455 boys and 111 girls; 184 had been brought before the Court as neglected, 329 as uncontrollable, 719 were convicted for stealing, and 334 for other offences.

The terms of probation were:—One year and under, 1,414; one to two years, 95; over two years, 57. Cases in which the term of probation exceeds one year usually refer to children committed to the care of relatives or private establishments, the length of term implying legal authority to retain custody of the children apart from their parents.

Since its inauguration approximately 8,172 children have been released on probation by the Metropolitan Children's Court; the proportion of failures has been very small. During the year ended April, 1916, 224 children were released by the State Children Relief Board, the term of probation being one year.

Street-trading by Children.

Street-trading is defined by law as hawking newspapers, matches, flowers, or other articles, singing, or performing for profit, or any like occupation carried on in a public place. Girls are not allowed to engage in street trading. Licenses are issued by the State Children Relief Department to boys under 16 years; the trading hours prescribed for boys between ages 12 and 14 are from 7 a.m. to 7 p.m., and for boys over 14 years of age, from 6 a.m. to 10 p.m. The minimum age at which a license may be granted was fixed in 1911, at 12 years in case of certain occupations, and at 14 years in others; previously boys over 10 years were allowed to hold a license. Licenses are renewable half-yearly, and licensees are required to wear an arm-badge whilst trading.

Precautions are taken by supervisors to ensure the regular school attendance of licensees under 14 years of age.

During the half-year ended 31st March, 1916, 695 boys were licensed; their ages and the purposes for which licenses were granted were as follows:—

Street-trading.				12 years and under 14.	14 and under 16.	Total.
Hawking newspapers	...	...	...	451	204	655
„ flowers, &c.	...	...	...	6	...	6
„ other articles	...	...	...	25	9	34
Total	...	...	...	482	213	695

Particulars regarding the licenses granted and refused during the last five years are shown below:—

Period ended 31st March.	Boys Licensed.			Applications refused.	Licenses withdrawn during year.
	Under 14.	Over 14.	Total.		
1912	651	205	856	7	4
1913	477	175	652	191	10
1914	317	160	477	170	33
1915	469	211	680	130	40
1916	482	213	695	122	38

Royal Commission of Inquiry.

In 1912 the President of the State Children Relief Board was appointed as a Royal Commissioner to inquire into the various methods adopted in Great Britain, Europe, and America for the amelioration of the condition of dependent and neglected children, for the reformation of juvenile delinquents, and for the treatment of the feeble-minded. As the result of his investigations the Commissioner recommended that the laws relating to neglected, dependent, or delinquent children be codified and amended, with the object of extending their scope, and of securing simplicity and uniformity in administration, and that legislation be introduced in connection with the following matters:—The extension of the scope of the Children's Courts, and the age of children and young persons to whom the provision of the Acts may be applied; the supervision of the feeble-minded; the registration and inspection of all child agencies and organisations; the supervision of children attending picture-shows; the regulation of the circulation of pernicious literature; the appointment of a guardian for every illegitimate child; and, in regard to wife and child desertion, measures to assist affiliation proceedings, to enforce contributions from near relatives and to compel defaulting husbands and fathers to maintain their families. The Commissioner recommended also that the State Children Relief Board be re-organised by the substitution of a Children's Council, consisting of a president, three women, and three men—one of each sex to be a medical practitioner; that young children be judged by a psychological and sociological standard, and not merely by a legal standard; that boarding-out on probation be adopted as a general principle, and detention in a reformatory or other institution as a final resource only; and that steps be taken to secure the co-operation of the various public and private organisations dealing with child reform.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The question of physical fitness of children is of considerable importance to the community, and the medical reports of the Education Department point out the necessity for organised attention to physical disabilities, which retard educational progress, to prevent the spread of epidemic disease, and to check children's ailments in the early and curable stages.

School medical work was commenced in 1901, when initiatory observations were made, and measurements obtained from a limited number of public school pupils. Since that period more attention has been given to physical training; and Swedish drill, exercises, and sports have been embodied in the school curricula.

In 1907 the first systematic medical inspection of the children attending State schools was commenced in the more populous centres of Sydney and Newcastle, and during 1911 was extended to the South Coast districts and to a number of inland towns; and in the following year four school nurses were appointed to supplement the work of the doctors. In 1908, 1909, and 1911 dental inspections were made in a few State schools by the Dental Association of New South Wales, and it was found that the percentage of pupils with defective teeth was high.

Prior to 1913 the inspection was restricted to those children who were submitted by the teachers or selected by the medical officers, after a general survey of the classes; but during that year it was decided to inspect medically all pupils attending State schools. Free medical inspection was offered also to the pupils of non-State schools, and the offer was accepted in respect of all the Roman Catholic schools and of a large proportion of the other private schools.

A self-contained Medical Branch of the Department of Education has been created, with a staff of medical officers and nurses, and a bacteriological laboratory for the investigation of outbreaks of disease in schools. The work of the medical branch includes the inspection of school buildings, the delivery of lectures to teachers, senior students, and parents, and the investigation of outbreaks of infectious disease. Dental inspections are conducted in conjunction with the medical.

Recent developments of the school medical system have been in the direction of providing facilities for treatment, in order to give every child found defective the opportunity of being treated by the school medical officers. A travelling hospital, a travelling ophthalmic clinic, a metropolitan dental clinic and a travelling dental clinic have been established.

Where there are no resident doctors or dentists the travelling hospital visits parts of the State with a staff of two medical officers, a nurse, and a dentist; one doctor gives general treatment and performs minor operations, the other treats eye defects, and the dentist attends to the hygiene of the mouth. The travelling ophthalmic clinic treats eye defects at the larger country schools. The number of school children treated by the hospital and clinics during 1915 was 11,605; and the staff of the hospital treated also 235 adults and children below school age, under emergency conditions requiring immediate attention.

Under the re-organised scheme a medical examination will be made every three years of all children present at each school; as the term of compulsory attendance is seven years, the children will be examined at least twice during their school life.

For the purpose of inspection the children are classified in three groups, viz., those attending schools (1) in the metropolitan district, (2) in the large country towns on or near the railway, (3) in small country towns, villages, and remote settlements. The number of children examined during 1915, including 3,742 examined by the travelling hospital, was 80,617; of these, 47,720 showed defects needing treatment.

Schools.	Enrolment at Schools examined.			Pupils examined.			Pupils notified as defective.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
State Schools—									
Metropolitan district	16,008	14,582	30,590	13,536	11,895	25,431	7,879	7,168	15,047
Large country towns	13,963	13,024	26,987	12,226	11,327	23,553	7,761	7,254	15,015
Small country areas	10,214	9,611	19,825	8,741	8,235	16,976	4,488	4,310	8,798
Total	40,185	37,217	77,402	34,503	31,457	65,960	20,128	18,732	38,860
Private Schools—									
Metropolitan district	5,247	8,247	13,494	3,817	6,080	9,897	2,188	3,728	5,916
Large country towns	1,930	2,237	4,167	1,469	1,743	3,212	946	1,101	2,047
Small country areas	859	1,024	1,883	713	865	1,578	371	526	897
Total	8,036	11,508	19,544	5,999	8,688	14,687	3,505	5,355	8,860
Total, all Schools	48,221	48,725	96,946	40,502	40,145	80,647	23,633	24,087	47,720

The proportion of pupils who showed defects was 59·2 per cent. of those examined; it was lowest in the small country areas, being 52·2 per cent., as

compared with 63·7 in the large country towns. There was not an appreciable difference between the proportion of each sex, as will be seen from the following table, which shows the percentage of pupils found defective during the years 1914 and 1915:—

Schools.	1914.			1915.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Metropolitan district	53·8	54·1	53·9	53·0	60·7	59·4
Large country towns	71·6	72·9	72·2	63·5	63·9	63·7
Small country areas	49·0	51·2	50·1	51·4	53·1	52·2
Total, all Schools	60·0	61·7	60·8	58·4	60·0	59·2

The investigation disclosed that defects of the teeth were very numerous, the majority being in the first teeth; other common ailments were enlarged glands, defective tonsils, and adenoids. A summary of the defects is shown below:—

Defects.	State Schools.			Private Schools.	Total.
	Metropolitan District.	Large Country Towns.	Small Country Areas.		
Eyes—Vision	1,141	1,097	715	831	3,784
Other	248	307	556	265	1,376
Ears—Hearing, gross	444	1,130	163	552	2,294
slight	2	6	21	91	120
Other	67	50	31	31	179
Nose and Throat—					
Tonsils, Adenoids	2,330	2,774	2,738	1,825	9,667
Other	100	199	245	86	630
Teeth—Second, gross	1,519	1,772	649	969	4,909
slight	8,757	8,116	3,534	4,838	25,245
First	10,524	9,897	8,843	5,089	24,353
Hair	1,274	1,410	745	888	4,317
Skin	130	192	35	71	428
Deformities—Round Shoulders...	212	257	13	61	543
Other	26	25	15	18	84
Hernia	7	4	7	4	22
Enlarged Glands	3,052	3,812	1,523	2,584	10,971
Anæmia	361	366	80	151	958
Defective Nutrition	754	351	788	247	2,140
Defective Speech	175	194	127	108	604

It has been found difficult to ensure satisfactory treatment for all children suffering from defects. Returns received by the Medical Branch with respect to notifications sent to parents show the following results; the returns are incomplete as, at the date of compilation, full particulars had not been received from many schools, especially those in remote districts:—

Division.	Notifications sent.	Children subsequently treated.	Percentage treated of number notified.
Metropolitan area	20,963	8,867	42·3
Large country towns	17,062	7,241	42·4
Small country towns	7,024	3,259	46·4
Total	45,049	19,367	42·9

Although the non-treatment of some children is due to the indifference of parents, in many other cases it is due to inability to afford the cost of treatment, or to the absence of facilities, as, even in some of the larger country towns, treatment is not obtainable for serious defects of vision and teeth.

Vaccination of School Children.

Of the 80,617 children inspected by the medical officers in 1915, it was found that 28,739, or 35·65 per cent., had been successfully vaccinated. The proportion was highest in the metropolitan district, where a large number were vaccinated during the epidemic of smallpox in 1913:—

Schools.	Pupils examined.			Pupils found to have been successfully vaccinated.			Per cent. of Pupils examined.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	
Metropolitan district ...	17,353	17,945	35,298	8,840	8,921	17,761	50·32
Large country towns ...	13,695	13,070	26,765	4,231	4,140	8,371	31·28
Small country areas ...	9,454	9,100	18,554	1,359	1,248	2,607	14·05
Total	40,502	40,115	80,617	14,430	14,309	28,739	35·65

INFECTIOUS DISEASES OF SCHOOL CHILDREN.

During 1914, 19,594 pupils of Public Primary Schools were compulsorily absent on account of infectious diseases, 13,017 being patients, and 6,577 contacts; the former represented 4·9 per cent. of the total enrolment, and the latter 2·4 per cent.; the average period of absence was 5·6 weeks.

In 1915 an epidemic of measles caused a considerable increase in the number of children affected; there were 43,711 patients, and 20,532 contacts, the ratios to the net enrolment being 16 per cent. and 7·5 per cent. respectively; the average period of absence was 4·5 weeks. There were 29,472 cases of measles, 2,866 scarlet fever, and 2,744 chicken-pox. Cases of ophthalmia occurred mainly in the western districts, and pamphlets and drugs are provided for the prevention and cure of this disease.

Particulars of the infectious diseases which affected the pupils of the Public Primary Schools during the years 1914 and 1915 are shown in the following statement:—

Disease.	1914.				1915.			
	Children affected.		Total Period of Absence.		Children affected.		Total Period of Absence.	
	Patients.	Contacts.	Patients.	Contacts.	Patients.	Contacts.	Patients.	Contacts.
			Weeks.	Weeks.			Weeks.	Weeks.
Whooping Cough..	2,766	404	17,842	2,084	1,675	148	10,973	740
Measles ..	1,555	688	7,024	2,363	29,472	13,220	135,077	46,608
German Measles ..	108	22	501	80	652	329	2,206	875
Chicken Pox ..	2,436	296	9,631	1,086	2,744	242	10,251	814
Diphtheria and Croup ..	1,725	2,635	13,876	15,711	1,329	2,171	9,590	12,373
Ringworm ..	1,134	43	4,952	132	1,221	22	5,229	87
Scarlet Fever, Scarlatina ..	1,330	1,436	10,636	8,475	2,866	3,126	22,663	18,339
Typhoid, Enteric Fever ..	292	743	3,042	4,360	216	497	2,197	2,865
Mumps ..	291	37	1,091	263	1,172	518	4,411	1,272
Ophthalmia ..	1,185	37	4,330	130	2,119	42	5,952	79
Scabies ..	128	4	624	19	216	11	933	49
Small Pox ..	49	174	417	1,029	18	199	150	1,144
Infantile Paralysis ..	9	23	78	115	3	6	22	33
Tuberculosis ..	9	....	176	...	8	1	75	10
Total ..	13,017	6,577	74,220	35,847	43,711	20,532	209,729	85,278

ANTHROPOMETRIC SURVEY OF SCHOOL CHILDREN.

In conjunction with the medical inspection an anthropometric survey of children is made in order to show the physical development in relation to mental progress, and the effect of environment on physical condition, as well as to establish a basis of comparison of the children of this State with those of other countries; a comprehensive investigation is now in progress.

PUBLIC HOSPITALS.

Public hospitals embrace all institutions for the care of the sick, **except** those owned and maintained entirely by private persons; hospitals conducted by charitable and religious organisations, some of which are not subsidised by the Government, and the Thomas Walker Convalescent Hospital, maintained by private endowment, are included. The Public Hospitals Act of 1898, and its amendment, define the procedure in the election of officers, **and** in matters relating to the property of the public hospitals to which the provisions of these Acts have been extended. With few exceptions the hospitals receive financial assistance from the public funds.

There were in New South Wales, at the end of 1915, 151 general hospitals for the treatment of the sick; 26 were in the metropolitan area, and 125 in country districts. The accommodation provided was 6,260 beds, including 323 in the open air, viz., 2,820 in the metropolitan hospitals, or an average of 108 beds per hospital; and 3,440 in country districts, or an average of 27 beds per hospital. The cubic capacity of metropolitan hospitals was 3,092,545 cubic feet, or an average of 1,185 cubic feet per bed; in the country hospitals the average was 1,201 cubic feet, the average for New South Wales being 1,197 cubic feet per bed. The average daily number of patients was 2,196 in all the metropolitan hospitals, and 2,028 in the country.

The following statement shows the extent to which the general hospital services have increased since 1901:—

Particulars.	1901.		1911.		1915.	
	Metro-politan.	Country.	Metro-politan.	Country.	Metro-politan.	Country.
Hospitals	15	103	21	120	26	125
Beds, including Cots	1,453	1,938	2,086	2,962	2,609	3,328
Indoor patients	16,919	16,093	29,610	26,954	39,527	33,656
Outdoor patients	72,645	7,614	104,466	11,880	149,855	9,757
Average daily number of patients	2,045		3,302		4,224	
Indoor patients per 1,000 of mean population	24.1		34.0		39.2	
Average annual cost per occupied bed	£72 12s. 11d.		£85 18s. 9d.		£90 17s. 0d.	

The number of indoor patients is exclusive of those treated in Government asylum hospitals; the outdoor patients are exclusive of 2,370 treated at the Dental Hospital.

Private Hospitals.

In addition to the public hospitals, there are numerous private hospitals which, prior to 1909, were entirely free of State supervision; but since the passing of the Private Hospitals Act, 1908, a private hospital (which includes any place in which medical, surgical, or lying-in cases are received) is not allowed to carry on business unless it is licensed by the Department of Public Health, and complies with the regulations as to structure and management. The hospitals thus licensed on 31st December, 1915, numbered 537, viz., 162 in Sydney, and 375 in the country.

The following statement shows the classification and accommodation of private hospitals:—

District.	Classification.				Accommodation.			
	Medical, Surgical, and Lying-in.	Medical and Surgical.	Lying-in.	Total.	1 to 3 Beds.	4 to 10 Beds.	11-20 Beds.	Over 20 Beds.
Sydney	49	7	106	162	65	57	21	19
Country	123	12	240	375	192	153	29	1
Total	172	19	346	537	257	210	50	20

Country hospitals were licensed in 165 towns; in the majority the accommodation provided was from 1 to 3 beds; only in 20 hospitals, 19 in Sydney and 1 at Richmond, were more than 20 beds available.

HOSPITAL FINANCE.

The following statement shows the revenue and expenditure of the public hospitals for the year 1915:—

Items.	Metropolitan.	Country.	New South Wales.
Receipts—	£	£	£
State aid	161,684	103,896	265,580
Subscriptions and donations	63,120	70,660	133,780
Patients' contributions	36,656	36,959	73,615
Miscellaneous	13,742	11,306	25,048
Total Receipts	£ 275,202	222,821	498,023
Expenditure—			
Buildings and repairs	53,595	29,152	82,747
Salaries and Wages	96,788	86,135	182,923
Provisions, Stores, &c.	109,659	96,523	206,182
Miscellaneous	18,492	17,647	36,139
Total Expenditure	£ 278,534	229,457	507,991

The expenditure in connection with the institutions controlled entirely by the Government has been included in the figures stated above.

According to the hospital accounts the total amount of State aid received by the hospitals in the metropolitan area in 1915 was £161,684, and by the country hospitals £103,896. The total for the State was £265,580, comprising special grants amounting to £67,142 to metropolitan and £22,393 to country hospitals; and subsidies, £94,542 to metropolitan and £81,503 to country institutions. These amounts do not include payments for attendance on aborigines, expenses in connection with special outbreaks of disease, which are met from the general Medical Vote, nor cost of maintenance of a large number of chronic and incurable cases in asylums for the infirm and destitute.

The revenue and expenditure of public hospitals at intervals since 1900 are shown below:—

Year.	Revenue.					Expenditure.			
	State aid.	Subscriptions and Donations.	Patients' contributions.	Other.	Total.	Buildings and Repairs.	Salaries and Wages, Provisions, Stores, &c.	Other.	Total.
	£	£	£	£	£	£	£	£	£
1900	88,463	65,634	20,458	16,474	191,029	17,362	131,932	14,339	163,633
1905	100,976	72,430	27,635	14,824	215,865	34,541	167,815	22,808	225,164
1910	146,638	102,690	45,417	19,603	314,348	33,652	241,607	29,054	304,313
1911	159,147	131,244	50,099	22,867	363,357	50,902	263,037	34,877	348,816
1912	204,361	144,518	58,416	22,170	429,465	64,421	306,792	39,106	410,319
1913	230,369	157,145	61,613	22,594	471,721	126,607	338,499	36,976	502,082
1914	255,923	125,855	66,457	26,962	475,197	105,448	367,690	37,416	510,554
1915	265,580	133,780	73,615	25,048	498,023	82,747	389,105	36,139	507,991

Hospital Funds.

The balances of the funds of the hospitals as at the beginning and end of the year 1915 are shown in the following statement:—

Hospitals.	Current Account.		Invested Funds.	
	At 1st Jan., 1915.	At 31st Dec., 1915.	At 1st Jan., 1915.	At 31st Dec., 1915.
	£	£	£	£
Metropolitan ...	(—) 63,897	(—) 70,197	131,188	134,156
Country ...	21,846	21,601	89,119	82,728
Total ...	(—) 42,051	(—) 48,596	220,307	216,884

(—) Indicates debit balance.

Cost of Maintenance of Hospital Patients.

The average annual cost of maintenance per patient in the hospitals during 1915 was £91; the average is calculated on the average daily number of patients, and is exclusive of cost of buildings, repairs, outdoor treatment, and district nursing:—

Average Daily Number Resident.	Number of Hospitals.	Average Annual Cost per Occupied Bed.			
		Wages.	Provisions, Stores, &c.	Miscellaneous.	Total.
		£	£	£	£
Under 1	8	431·28	204·10	55·64	691·02
1 to 3	9	126·36	110·32	26·25	262·93
3 „ 5	16	97·30	66·39	15·05	178·74
5 „ 10	31	65·94	56·74	11·87	134·55
10 „ 15	19	50·64	54·44	9·91	114·99
15 „ 20	16	41·07	48·14	7·49	96·70
20 „ 25	8	35·29	40·54	7·27	83·10
25 „ 30	5	25·38	39·63	4·15	69·16
30 „ 35	6	27·89	36·99	6·31	71·19
35 „ 40	7	36·76	43·84	5·55	86·15
40 „ 100	15	29·87	39·05	8·10	77·02
Over 100	8	38·42	42·52	7·19	88·13
Total ...	148	39·24	43·84	7·77	90·85

STAFFS AND PATIENTS IN PUBLIC HOSPITALS.

The following statement shows the medical and nursing staffs attached to public hospitals during 1915:—

Hospitals.	Medical Staff.		Nursing Staff.			
	Honorary.	Salaried.	Qualified Nurses.	Nurses Training.	Others.	Total.
Metropolitan ...	381	65	656	283	53	992
Country ...	203	130	444	319	67	830
Total ...	584	195	1,100	602	120	1,822

During the year 73,183 persons were under treatment as indoor patients, 39,527 in metropolitan, and 33,656 in country hospitals, and the number remaining in hospitals at the close of the year was 4,307 (2,353 males and 1,954 females). The average time during which each person was under treatment was: of those who died—males, 24·8 days, and females 23·2 days; and of those who recovered—males, 20·9 days, and females 20·8 days.

The following statement shows the number of indoor patients treated, and the discharges and deaths during the past ten years:—

Year.	Patients under Treatment.	Discharges.	Deaths.	Patients at the end of Year.
1906	41,552	36,402	2,576	2,574
1907	44,667	39,133	2,767	2,767
1908	47,349	41,391	3,020	2,938
1909	50,541	44,208	3,194	3,139
1910	54,683	48,370	3,224	3,089
1911	56,564	49,605	3,550	3,409
1912	61,711	53,538	4,488	3,685
1913	65,190	56,908	4,458	3,824
1914	70,154	61,759	4,310	4,085
1915	73,183	64,088	4,788	4,307

The increase in the number of patients treated has been steady, and has been more rapid than the growth of population; the proportion of the population treated in hospitals having risen gradually from 28 per 1,000 in 1906 to 39·2 per 1,000 in 1915.

Outdoor Hospital Patients.

During 1915, 160,972 persons were treated as outdoor patients of the general hospitals, viz., 152,225 at metropolitan hospitals, including 2,370 at the Dental Hospital, and 8,747 at country hospitals.

Sickness in Public Hospitals.

The principal diseases of patients under treatment in the public hospitals during 1915 are shown below; patients treated at the hospitals attached to the Government asylums for the infirm are not included, but are shown

separately on a subsequent page. The cases under treatment during 1915 numbered 73,183—males 38,806, and females 34,377. The number who died, or were discharged as recovered, relieved, or unrelieved, numbered 68,876, leaving 4,307 under treatment at the end of the year. These figures include transfers, and represent the aggregate of the number of cases treated at each hospital; cases admitted more than once during the year are counted each time admitted:—

Disease.	Total under Treatment.		Number of those discharged during the year who—					
			Recovered.		Were Relieved.	Were unrelieved.	Died.	
	Males.	Females.	Males.	Females.	Persons.	Persons.	Males.	Females.
Typhoid	1,095	688	860	537	6	2	112	57
Smallpox	48	60	40	49	4	1	...	...
Scarlet fever	909	1,691	783	1,465	23	6	18	24
Diphtheria and Croup ...	1,767	2,334	1,408	1,885	309	2	99	102
Influenza	811	422	779	405	14	.	4	3
Tuberculosis of lungs ...	1,194	728	75	96	767	150	217	124
Tuberculosis, other organs	382	307	94	99	302	39	29	31
Venereal diseases	972	524	311	118	898	60	14	12
Cancer	811	577	236	185	308	264	188	104
Rheumatism	991	585	546	345	480	21	15	14
Diseases of the eye	792	530	502	344	343	33	1	1
Heart diseases	790	412	75	41	669	29	212	100
Hæmorrhoids, &c.	1,434	418	1,295	340	105	26	4	...
Diseases of nose	1,064	888	1,009	860	30	40	1	...
Bronchitis	842	490	607	382	253	2	40	17
Pneumonia	2,203	1,246	1,728	985	61	4	358	185
Diseases of the stomach ...	852	792	656	594	272	13	13	19
Diarrhœa and Enteritis ...	1,266	957	865	645	145	16	228	186
Appendicitis, Typhlitis ...	1,695	1,902	1,460	1,670	152	23	67	44
Intestinal obstruction ...	1,510	399	1,304	322	69	41	57	40
Nephritis, Bright's disease	496	296	92	96	279	24	181	68
Diseases, female genital organs ... ..	...	3,844	...	3,262	293	80	...	49
Puerperal condition ... ..	...	6,032	...	5,335	225	131	...	140
Diseases of skin, &c.	1,183	615	913	503	248	13	17	8
Accidents	5,493	1,282	4,356	941	700	92	237	77
All Diseases	38,806	34,377	26,288	25,660	10,434	1,706	3,003	1,785

Duration of Illness.

The following figures show the condition under which discharges during 1915 were effected, and the period of treatment in hospital:—

Condition.	Discharges.				Period of Treatment in Hospital.			
	Number.		Proportion.		Total.		Average.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Recovered	26,288	25,660	percent 72·1	percent 79·1	days. 543,112	days. 532,461	days. 20·7	days. 20·8
Relieved	6,266	4,168	17·2	12·9	197,922	118,559	31·6	28·4
Unrelieved	896	810	2·5	2·5	20,259	13,933	...	...
Died	3,003	1,785	8·2	5·5	74,408	41,326	24·8	23·2
Total	36,453	32,423	100·0	100·0	835,701	706,279	22·9	21·8

Fatality Rates.

The fatality rates per 100 cases of various diseases treated during 1915 are shown below; the cases of persons remaining in the hospitals at the end of the year are not included:—

Disease.	Cases.		Fatality Rate.	
	Males.	Females.	Males.	Females.
			per cent.	per cent.
Typhoid fever	976	598	11·5	9·6
Diphtheria and Croup	1,665	2,140	5·9	4·8
Tuberculosis—Lungs	873	556	24·9	22·3
Other	331	263	8·8	11·8
Cancer	754	531	24·9	19·6
Diseases of the heart	742	384	28·6	26·0
Bronchitis	826	480	4·8	3·5
Pneumonia	2,129	1,192	16·8	15·5
Diarrhoea and Enteritis	1,181	904	19·3	20·6
Appendicitis	1,600	1,816	4·2	2·4
Intestinal obstruction	1,448	385	3·9	10·4
Nephritis	465	275	38·9	24·7
Accident	5,201	1,202	4·6	6·4
All diseases	36,453	32,423	8·2	5·5

STATE ASYLUMS FOR THE INFIRM.

Five asylums for the infirm are maintained by the Government—four for men and one for women. These institutions were established as asylums for aged and destitute persons, but the introduction of the Old-age and Invalidity pension systems and the prosperous conditions prevalent throughout the State have caused a considerable decrease in the number of persons requiring relief. In consequence, the character of the work of the institutions has changed considerably and the treatment of the sick is rapidly developing into a primary feature of administration, the majority of inmates being those requiring medical care.

Prior to 1915 cottage homes were provided rent free for aged couples, medical treatment being supplied by the State, but owing to the cessation of the demand for these residences it was decided to discontinue the system.

The average number resident during the year 1915 was 3,156, as compared with 3,141 during the previous year. The weekly cost per inmate for each of these years is shown below:—

Head of Expenditure.	1914.	1915.
	s. d.	s. d.
Salaries and money allowances	3 5	3 5½
Provisions, extras, medical comforts, and forage	4 8½	7 0
All other expenses	1 10½	0 8
Gross weekly cost for maintenance per inmate	10 0½	11 1½
Average weekly contribution towards Revenue per inmate...	0 10½	1 6½
Net weekly cost per inmate	9 2	9 7

ASYLUM HOSPITALS.

In the hospitals attached to these institutions 5,608 cases of illness were treated during 1915—males, 4,467, and females, 1,141; at the end of the year, 1,279 cases remained under treatment.

Particulars regarding the diseases treated, the deaths, recoveries, &c., are shown below:—

Disease.	Cases Treated		Discharged.					
			Recovered.		Relieved.	Un-relieved.	Died.	
	Males.	Females.	Males.	Females.	Persons.	Persons.	Males.	Females.
Tuberculosis—								
Lungs	466	45	1	...	266	27	97	10
Other	33	4	2	...	12	3	10	1
Venereal diseases	387	58	98	2	242	54	3	1
Cancer	234	44	10	...	37	65	85	23
Rheumatism	264	52	77	...	119	7	18	4
Cerebral hæmorrhage, &c.	115	65	...	1	31	15	40	21
Diseases of the eyes	93	18	46	1	23	11	1	1
Other diseases of the nervous system.	326	73	17	...	109	85	44	5
Heart diseases	192	40	1	...	72	10	72	13
Hæmorrhoids, &c.	222	54	116	...	78	9	17	6
Bronchitis	130	63	41	3	75	5	33	8
Diseases of the stomach	49	62	13	2	71	4	4	2
Diarrhœa and Enteritis	63	15	28	1	10	...	18	8
Intestinal obstruction	49	3	39	...	2	5	...	.....
Nephritis	123	7	1	...	55	5	43	2
Diseases of the skin, etc.	332	69	269	9	57	7	6	2
Senility	395	219	2	1	84	76	110	60
Accident... ..	210	39	140	7	47	6	1	2
All diseases	4,467	1,141	1,240	51	1,685	456	708	189

As a large proportion of the patients were aged persons suffering from chronic and incurable complaints, the period under treatment was longer and the percentage of recoveries lower than in the general hospitals:—

Condition.	Discharges.				Period of Treatment.			
	Number.		Proportion.		Total.		Average.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
			per cent.	per cent.	days.	days.	days.	days.
Recovered	1,240	51	35·3	6·2	52,424	2,010	42·3	39·4
Relieved	1,228	457	35·0	55·8	95,829	23,991	78·0	63·4
Unrelieved	334	122	9·5	14·9	29,739	16,007	...	...
Died	708	189	20·2	23·1	148,056	58,363	209·1	308·8
Total	3,510	819	100·0	100·0	326,048	105,371	92·9	128·7

HOSPITALS IN GAOLS.

The health of prisoners receives special attention from medical officers at hospitals attached to gaols. The following return shows the total number of cases treated in gaol hospitals:—

Year.	Cases of Sickness treated.	Year.	Cases of Sickness treated.
1906	704	1911	732
1907	626	1912	728
1908	683	1913	718
1909	673	1914	610
1910	525	1915	554

At Bathurst Gaol special provision has been made for the treatment of prisoners suffering from tuberculosis.

CONVALESCENT HOSPITALS.

Two State Convalescent Hospitals have been established—Denistone House, at Ryde, for men; and the Strickland, at Rose Bay, for women. These institutions receive persons who are convalescent from serious illness, and thereby accommodation is made available for urgent cases at the metropolitan public hospitals. During 1915 the number of persons treated was 273 men, and 444 women; 20 men and 31 women remained in the institutions at the end of the year.

At the Carrington Centennial Convalescent Hospital, Camden, patients from the metropolitan district are accommodated for rest and change in the bracing climate of the southern highlands; the hospital is subsidised by the Government. The Thomas Walker Convalescent Hospital is privately endowed.

MILITARY HOSPITALS AND CONVALESCENT HOMES.

A number of military hospitals and convalescent homes have been established since the outbreak of war for the accommodation of soldiers; several properties have been donated, and others have been acquired by the Defence authorities or through the agency of the Red Cross Society.

Particulars regarding these institutions are not included in the figures relating to hospitals and charitable institutions.

TREATMENT OF COMMUNICABLE DISEASES.

Measures for the treatment and prevention of infectious diseases are taken under the authority of the Public Health Act. Cases of such diseases as leprosy, bubonic plague, smallpox, scarlet fever, typhoid fever, diphtheria, and infantile paralysis must be notified to the Board of Health; no case of typhus, yellow fever, or cholera has occurred in New South Wales, and bubonic plague is practically non-existent. In 1915 acute malarial fever was added to the list of notifiable diseases in March, cerebro-spinal meningitis in October, and in August pulmonary tuberculosis was proclaimed as notifiable in the Metropolitan and Hunter River districts. Since October, 1916, the last-mentioned disease has been notifiable also in the Katoomba municipality and the Blue Mountain shire.

Where necessary, special provision is made for the isolation of infectious cases. The majority in the metropolis are treated at the Quarantine Station, or at the Coast Hospital, and the country cases are accommodated in special wards of the local hospitals.

The cases of infectious disease notified during 1915 were as follows:—

Disease.	Sanitary District.		Other Districts.	Total
	Metro-politan.	Hunter River.		
Smallpox	41	411	19	471
Typhoid Fever	810	114	1,017	1,941
Scarlet Fever... ..	4,724	404	3,207	8,335
Diphtheria	2,528	251	3,059	5,838
Infantile Paralysis	50	... ..	13	63
Acute Malarial Fever	88	10	7	105
Cerebro-Spinal Meningitis	33	.....	17	50
Tuberculosis	350	11	.....	361

There were also three cases of leprosy, two from the Metropolitan district, and one transferred from Victoria.

Leprosy.

The Leper Lazaret for the segregation of persons suffering from leprosy was opened for the admission of patients in 1883, though statutory provision for the compulsory notification of the disease and detention of lepers was not made until 1890. The number of cases admitted to the lazaret after 1883 was 137; of these 64 died, 12 were discharged, 39 were repatriated, and 22, of whom 18 were males, remained in the lazaret at 31st December, 1915. The birthplaces of the patients are shown below:—

Birthplaces.	Admitted.	Died.	Dis-charged, &c.	Repatri-ated.	Inmates at end of Year.
White (European descent)—					
New South Wales	34	21	6	.....	7
Other Australian States	2	1	.....	.....	1
United Kingdom	15	10	3	.....	2
Other Countries	8	6	.....	1	1
Coloured—					
China	51	16	.....	32	3
Pacific Islands	17	7	.....	4	6
Other Countries	10	3	3	2	2
Total	137	64	12	39	22

During 1915 three patients were admitted, four died, and one was discharged; the cost of management was £2,432, or an average of £111 16s. 2½d. per inmate.

Smallpox.

There was an outbreak of smallpox of a very mild type in Sydney in 1913. The first cases occurred in April, but owing to the mildness of attack, escaped detection for some weeks. Only a small proportion of the population was protected by vaccination, but the disease had apparently a very low

infective power, and did not spread rapidly, being transmitted, as a rule, by personal contact only. Stringent measures were taken to restrict the epidemic; where practicable the patients were transferred for treatment to the hospital in the Sydney Quarantine Area, and a large number of people were vaccinated.

The number of smallpox cases notified during 1913 was 1,070, and during the following year, 628; the death-rate was remarkably low, one death occurring in 1913, and three in 1914. In 1915 there were 471 cases; the majority were from mining centres in the Newcastle and Hunter River districts—only 41 occurred in Sydney; one patient died, but the primary cause of death was gastro-enteritis. In 1916 there were 106 cases, of which 14 were in the Metropolitan area, and 33 in Newcastle.

Tuberculosis.

A remarkable reduction in the mortality from tuberculosis has been effected since the enactment of the Dairies Supervision Act of 1886, the Pure Food Act and other legislation for the protection of the food supply from insanitary conditions, but the fact, as shown in the chapter dealing with vital statistics, that 6·6 per cent. of the deaths in New South Wales during 1915 were caused by tuberculosis, demonstrates the necessity for drastic measures to prevent the spread of the disease. In July, 1912, an Advisory Board was appointed to assist the Government in matters relating to the treatment of tuberculous diseases. This Board is composed of medical practitioners representing the University, the hospitals, the Government Medical Service, the general practitioners, and the various branches of medical science, medicine, surgery, pathology, State medicine, and diseases of women and children, also a veterinary scientist.

Under the by-laws of the City of Sydney medical practitioners have been required since 1904 to notify cases of phthisis within the city area; in August, 1915, pulmonary tuberculosis was proclaimed under the provisions of the Public Health Amendment Act of 1915 as notifiable in the Metropolitan and Hunter River sanitary districts, and in October, 1916, in the Katoomba municipality and the Blue Mountain shire. The Metropolitan district includes Sydney and suburbs, extending as far as Hornsby on the north, Parramatta on the west, and Hurstville on the south. The Hunter River district embraces Newcastle and the surrounding municipalities as far west as Singleton.

Persons suffering from pulmonary tuberculosis may receive treatment of a temporary character at the general hospitals, and there are special institutions for their care and treatment, such as the State Hospital at Waterfall, the Queen Victoria Homes for Consumptives, at Wentworth Falls and Thirlmere, and the R. T. Hall Sanatorium, at Hazelbrook, as well as various private hospitals; tuberculous cases are received also at the Sacred Heart Hospice for the Dying, Sydney. At the hospitals attached to the State asylums at Rookwood and Newington accommodation is reserved for a limited number of tuberculous patients.

The Waterfall Hospital was established in 1909, and persons suffering from pulmonary tuberculosis in early as well as advanced stages of the disease are treated there; male patients only were admitted prior to 1912, when a department for females was opened. There are 12 wards, with 308 beds in the institution; 599 males and 294 females were accorded hospital treatment during 1915. The expenditure during the year 1915 was £17,403, and the patients' contributions £1,252; the average cost of treatment, excluding buildings, repairs, &c., was £41 14s. per occupied bed.

It is proposed to establish a wattle plantation in the Tenterfield district to provide remunerative occupation as well as curative treatment for patients in whom the disease has been arrested.

The National Association for the Prevention and Cure of Consumption has inaugurated an educational campaign, and in September, 1912, opened the first tuberculin dispensary in Sydney. Medical advice is given at the dispensary to persons suffering from tuberculous diseases, and a nurse is employed to visit their homes and instruct the inmates in precautionary measures to prevent the spread of tuberculosis.

The dispensary system is being extended with the co-operation and financial assistance of the Government; throat and chest dispensaries have been established in connection with three metropolitan hospitals, and also at Newcastle.

Malarial Fever.

Acute malarial fever was proclaimed as a notifiable disease on 17th March, 1915; this precautionary measure was taken to prevent its spread amongst the residents of the State by soldiers returning from service in the tropics. To the end of the year 105 cases had been reported; with 14 exceptions, the patients were men from the warships or members of the Expeditionary Force who had been employed in New Guinea and other malarial regions in the Pacific.

Venereal Diseases.

Two clinics for the treatment of venereal diseases have been established in Sydney; the results of their work have been so successful that it is proposed to open others in suburban and country centres. Special wards for these cases have been provided at the Newington and Liverpool State Asylum Hospitals. In the chapter relating to police and prison services, particulars are given of persons treated in Lock Hospitals under the Prisoners Detention Act.

CHARITABLE INSTITUTIONS AND SOCIETIES.

In addition to hospitals for the treatment of sickness or disease, there exist, both in the metropolis and in the country, other institutions for the alleviation of distress in its various forms, such as homes for women, and for the blind, deaf, and dumb; for granting casual aid to indigent persons; and for the help of discharged prisoners.

In addition to the State asylums for the infirm and the cottage homes for State children, a number of charitable institutions are maintained partly by State aid and partly by private contributions, and others are wholly dependent on private aid.

During 1915 the recorded admissions to the various charitable institutions numbered 16,624, and at the end of the year there were 6,818 persons in the institutions, viz., 2,931 men, 1,636 women, and 2,251 children. The estimated value of outdoor relief afforded during 1915 was £9,670. State aid amounted to £244,174, and the total revenue and expenditure were respectively £381,223 and £383,177.

In addition to the institutions which afforded both indoor and outdoor relief numerous societies are engaged in distributing relief in various forms. During 1915 these societies distributed outdoor relief to the value of £15,064, and their total revenue and expenditure were £79,928 and £82,060 respectively, State aid amounting to £31,289.

The following is a comparative statement of the revenue and expenditure of the charitable institutions and societies:—

Particulars.	1905.	1910.	1914.	1915.
Number of Institutions and Societies ...	167	179	190	199
Revenue—	£	£	£	£
State Aid... ..	164,040	189,584	232,038	275,463
Subscriptions, &c.	49,670	66,815	77,465	107,753
Other	50,357	67,806	101,141	77,935
Total	264,067	324,205	410,644	461,151
Expenditure—				
Buildings and Repairs	9,195	13,912	36,043	18,862
Maintenance, Salaries and Wages	223,198	278,590	351,428	401,144
Other	29,088	26,103	28,665	45,231
Total	261,481	318,605	416,136	465,237

Ambulance and First Aid.

In the work of rendering first aid, and transporting invalid or injured persons, several organisations are engaged, viz., the St. John Ambulance Association and Brigade, the Civil Ambulance and Transport Corps, and the New South Wales Marine Ambulance. An ambulance service is maintained in connection with the Public Health Department, and during 1915 2,946 persons were removed by two motor ambulances, the distance travelled being 27,986 miles.

The primary object of the St. John Ambulance Association is the dissemination of general information as to the preliminary treatment of the sick and injured; a large number of classes of instruction are held throughout the State, certificates of competency being awarded by the Association. Ambulance Corps connected with the Railway and Tramway Department and the Department of Mines also encourage first-aid instruction. Particulars relating to the certificates and other awards during the last five years are shown below:—

Year.	N.S.W. Government Railway and Tramway Ambulance Corps—Examination Passes.			St. John Ambulance Association.						Government Ambulance Corps—Mines Department.	
	Primary	Efficiency.	Total.	Certificates.				Medallions.	Labels	Primary Certificates.	Silver Medallions
				First Aid.	Home Nursing.	Home Hygiene.	Sanitation.				
1911	1,249	814	2,063	1,148	150	...	...	62	2	59	2
1912	1,158	952	2,110	628	175	18	13	59	8	31	8
1913	881	952	1,833	662	103	15	...	101	20	43	10
1914	721	948	1,669	1,715	163	...	13	67	33	10	25
1915	664	878	1,542	5,176	2,427	67	13	130	47	33	11

The strength of the Railway and Tramway Ambulance Corps in 1915 was 9,282, as compared with 5,988 in 1911.

The Royal Life-saving Society promotes technical education in life-saving and resuscitation of the apparently drowned. During the year 1915-16 this society conducted examinations in connection with 176 classes, at which 1,437 awards were gained.

Nursing Associations.

In the matter of nursing, the District Nursing Association, the Bush Nursing Association, and the Sydney Day Nursing Association are active. The District Nursing Association restricts its operations to Sydney and its suburbs, and during 1915 nine nurses connected with the Association made 27,389 visits to 1,228 patients. The Association is maintained by public subscriptions, but received a grant of £100 from the Government in 1915.

To provide nursing for the sick in districts sparsely settled or remote from an established hospital the Bush Nursing Association was instituted during 1911, and during its first year four nurses were installed. In each centre a cottage was furnished and equipped for the use of the nurse; the costs of equipment and services are guaranteed by local committees, promoted and subsidised by the Association which was inaugurated with an endowment provided by public subscriptions, and is maintained by annual contributions subsidised by the Government.

During 1914 the Association was reorganised with Government representation and endowment in order to extend the service to all remote settlements, and at the end of the year twelve nurses had been appointed in various parts of the State. Arrangements were made also to subsidise doctors in small centres where the resident population is insufficient to provide a fair remuneration to medical practitioners. Where practicable the residents are expected to guarantee a certain sum to the doctor, and his earnings are further supplemented by Government subsidy. The subsidised doctors and nurses are required to co-operate with the medical officers attached to the travelling hospitals of the Education Department. In 1915 eighteen nurses were at work in various parts of the State.

GOVERNMENT RELIEF ORDERS.

To the various hospitals and asylums the Government issues orders authorising the holders to secure relief from the institutions. During 1915 12,741 orders were granted, of which 6,595 were to the Government asylums, 3,529 were to the Coast Hospital, and 1,457 were for outdoor treatment at hospitals; the balance were distributed among other institutions. The total applications numbered 13,152 in 1915, as compared with 12,761 in 1914; 411 were refused, but it frequently happens that applicants who have been refused Government orders receive recommendations to institutions not under State management. Half the applicants in 1915 were over 40 years of age, 2,787 being over 60.

PUBLIC CHARITABLE COLLECTIONS.

Numerous public collections have been made for the relief of distress occasioned by war, mining disasters, floods, drought, &c. A fund thus established is usually administered by a committee formed at a public meeting of citizens summoned for the purpose of inaugurating the fund.

With the object of increasing the revenue of the hospitals and charitable agencies, public collections are made annually in the Metropolitan and several country districts. Particulars of the Hospital Saturday Fund and the United Charities Fund, both operating in the metropolitan area, are shown below; no information is available of similar collections in other districts.

National Relief Fund of New South Wales.

The National Relief Fund of New South Wales was formed in 1914 by the amalgamation of certain funds which had been established by public subscription. A Board consisting of the Colonial Secretary, the Lord Mayor

of Sydney, the Public Trustee, and six other members appointed by the Governor was constituted to administer the fund; the moneys, &c., are vested in the Public Trustee, and will be used for the relief of persons injured, or of the dependents of those killed or injured in war or public disasters.

The funds absorbed by the National Relief Fund were as follows:—The Patriotic Fund inaugurated in 1899 to relieve distress arising from the South African War; the New South Wales Public Disaster Fund and the Education Department Relief Fund initiated for the relief of sufferers by the disaster at Mount Kembla mine in 1902; the Bulli Colliery Disaster Fund, established in 1887 in connection with the mining disaster at Bulli. On the resolution of both Houses of Parliament any other fund may be amalgamated with the National Relief Fund.

At 31st December, 1915, the assets of the National Relief Fund amounted to £55,534, the relief distributed during the year was valued at £3,874, and administrative expenses £83.

War Relief Funds.

On the outbreak of the present war numerous relief funds were initiated in New South Wales; those subsidised or assisted by grants or expenditure from the Consolidated Revenue of the State are audited by the Auditor-General in terms of the Trustees Audit Act.

Particulars as to the more important funds are given below:—

The Lord Mayor's Patriotic Fund was inaugurated in August, 1914, to alleviate distress arising from the war, and provides, *inter alia*, monetary assistance for the direct benefit of soldiers and their dependents.

The Red Cross Fund is devoted to the needs of sick and wounded soldiers and sailors. The Red Cross Society supplies medical equipment, ambulances, food, clothing, surgical appliances, and other comforts, and provides free accommodation at convalescent and rest homes. An important branch of its work is an agency for obtaining news of wounded, sick, and missing men.

The Australia Day Fund—30th July, 1915—was collected for the sick and wounded Australian soldiers and sailors; it supplies funds to the Red Cross Society and the Amelioration Committee, the latter affording assistance to returned men.

The Chamber of Commerce Fund provides Australian foodstuffs for soldiers and their dependents. The Citizens' War Chest Fund, established for immediate assistance in any emergency arising from the war, is intended primarily for the benefit of soldiers while on active service.

The Belgian, French, Polish, Servian, and Montenegrin Funds are used for the relief of distress in the Allied nations. On 14th May, 1915, a special collection was made for the Belgians, and on Allies' Day, 19th November, for the other Funds.

The Australian Soldiers' Repatriation Fund was created in April, 1916, upon the authority of the Commonwealth and State Governments, to re-establish soldiers in civil life when they return from the war, and to assist their dependents. The fund is vested in a board of trustees representative of all the States, and its administration is regulated by an Act of the Commonwealth Parliament. The amount of subscriptions shown below represents money actually received, and is exclusive of money promised, land, stock, &c.

On 25th April (Anzac Day), 1916, the anniversary of the landing of Australian troops at Gallipoli, the Returned Soldiers' Association appealed for funds to erect a memorial building. The Young Men's Christian Association receives public subscriptions for the prosecution of its work

amongst the troops. Donations in money and kind to the Tanned Sheepskin Waistcoat Fund are for providing sheepskin vests for soldiers; and to the Pastoralists Union Patriotic Fund for sending supplies of meat to the allied troops, and for the alleviation of distress caused by the war. Numerous regimental comforts committees collect gifts for the various divisions of the military and naval forces.

The total amount of contributions to the War Relief Funds from the commencement of the war to 31st December, 1916, was £2,604,923, the amount contributed to the principal funds being as follows:—

Fund.	Amount.	Fund.	Amount.
	£		£
Australia Day	825,661	Anzac Day	11,247
Belgian Relief	675,725	Air Squadron Fund (N.S.W.)	32,094
Lord Mayor's Patriotic ...	213,280	Repatriation Fund	9,861
Red Cross	159,633	Polish Relief	101,846
Chamber of Commerce... ..	110,335	French Relief	97,769
Citizen's War Chest	122,069	Servian and Montenegrin ...	50,794
Tanned Sheepskin Clothing ...	34,674	Miscellaneous	80,809
Y.M.C.A. Field Service	50,636		
Pastoralists' Union	28,490	Total	£2,604,923

The item "Miscellaneous" includes a balance of £1,638 at the credit of the Allies' Day Fund, after transferring £69,241 to French, £68,241 to Polish, and £36,385 to Servian and Montenegrin Relief Funds.

In addition to the amount shown above, goods in kind were supplied to a very large extent; the value to 31st July, 1916, was estimated at £233,000.

Of the total cash contributions, viz., £2,604,923, an amount of £1,833,838 had been disbursed at 31st December, 1916.

Hospital Saturday Fund.

The Hospital Saturday Fund of New South Wales, inaugurated in 1893, is registered under the Companies Act, and is managed by a Board of thirty members and eight honorary officers, all of whom are elected annually. Indoor collections at places of business, household collections by means of boxes, and an annual out-door collection are made; the money is distributed among certain hospitals and auxiliary medical charities in the metropolitan area.

For the year ended 31st May, 1916, £21,462 was collected and £20,000 was distributed; the expenses amounted to £877. Four city and thirteen suburban hospitals participated in the distribution, also nine special hospitals, and six auxiliary medical charities. Special donations during the year included £6,887 from the Police and Firemen's Carnival, and £4,000 from the Government of New South Wales. In 1915 the amount collected was £10,891, and distributed £10,000.

United Charities Fund.

The United Charities Fund is administered by a general committee, composed of delegates of the Associated Charities within Sydney and suburbs, except the medical charities aided by the Hospital Saturday Fund; usually an annual collection is made throughout the metropolis.

During the year ended 1st February, 1916, the Government made a special grant of £3,000 to the Fund in lieu of the annual collection; and including this, the total receipts amounted to £3,173. The amount distributed was £2,800, the expenses being £257; twenty-four charitable institutions, mostly orphanages and children's homes, benefited to the extent of £1,680; thirty-four relief societies, mainly benevolent, received £1,120.

INSANITY.

Under the Lunacy Act, 1898, the Judge in Equity is constituted a court to deal with matters relating to the declaration of any person as of unsound mind or incapable of managing his own affairs, and to the appointment of a committee of his estate; the Master in Equity, as Master in Lunacy, is clothed with all the powers of such a committee, and controls trust funds which at December, 1915, amounted to £250,913. The Act authorises the appointment of an Inspector-General of Insane, who is empowered to visit every hospital, reception-house, ward, cell, or licensed house, and to inquire generally as to the care, treatment, and health, mental and physical, of the patients. Persons deemed to be insane may be examined and detained on the order of a Justice; and in public hospitals, and in gaol establishments, wards are reserved for the reception and observation of mental patients, but special hospitals are maintained by the Government for their treatment and care.

MENTAL HOSPITALS.

For the treatment of mental patients there were during 1915 nine Government hospitals, in addition to a hospital for criminal insane at Parramatta, three licensed houses at Tempe, Ryde, and Picton, and reserved accommodation in a South Australian hospital for patients from the Barrier District of New South Wales.

Each institution admitting new cases is provided with a department specially designed and fully equipped for the treatment of curable patients.

The medical staff of the hospitals and licensed houses numbered 21, the nursing staff and attendants numbered 581 men and 492 women, and the average daily number of patients resident, excluding patients on leave, was 6,610, comprising 3,967 males and 2,643 females.

At the end of the year 1915 there were in the New South Wales hospitals 6,657 patients—3,980 males and 2,677 females; in the South Australian hospitals the patients from New South Wales numbered 16 men and 20 women; in addition there were 173 men and 233 women on leave from various institutions, making a total number of 7,099 under official cognisance—4,169 males, and 2,930 females.

In the following table is stated the number of mental patients under official notice at the close of each year, with their proportion per 1,000 of the population at quinquennial intervals since 1876:—

Year.	Number of Mental Patients.			Proportion per 1,000 of Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
1876	1,072	533	1,605	3·21	1·90	2·61
1881	1,354	726	2,080	3·16	2·06	2·66
1886	1,644	1,073	2,717	3·03	2·41	2·75
1891	1,912	1,222	3,134	3·04	2·29	2·70
1896	2,356	1,489	3,845	3·46	2·49	3·01
1901	2,684	1,804	4,488	3·72	2·75	3·26
1906	3,285	2,240	5,525	4·13	3·11	3·65
1911	3,810	2,573	6,383	4·30	3·19	3·77
1912	3,866	2,640	6,506	4·13	3·13	3·66
1913	3,935	2,739	6,674	4·09	3·15	3·64
1914	4,092	2,846	6,938	4·23	3·17	3·73
1915	4,169	2,930	7,099	4·38	3·19	3·80

From these figures it appears that generally the proportion of patients treated in the mental hospitals is increasing steadily. To ascertain the general insanity rate it would be necessary to consider the extent to which

patients are treated in private houses, and the proportion of persons whose mental condition, while not calling for certification, might be relieved by treatment if provision were made for the admission of voluntary patients.

Admissions and Discharges.

The steadily increasing number of admissions resulted in so overtaxing the accommodation available in the large hospitals, that additional accommodation had to be secured, and the opportunity was taken in 1910 of giving to selected patients experience of open-air treatment, housing them in tents with wooden framework and flooring; the resultant benefit to health was regarded as highly satisfactory.

Prior to 1893 there was no law in force to prevent the influx of insane into New South Wales, but in that year legislation rendered the owner, charterer, agent, or master of a vessel liable for the maintenance of any insane person landed in the State. In 1915 45 insane patients were received from places beyond the State, 22 being discharged after a few days' treatment at the Reception House, and 23 admitted to mental hospitals.

The numbers of admissions and re-admissions to mental hospitals since 1891 are shown below in five-year periods:—

Period.	Admissions.			Re-admissions.		
	Males.	Females.	Total.	Males.	Females.	Total.
1891-1895	1,843	1,116	2,959	217	201	418
1896-1900	1,980	1,278	3,258	300	259	559
1901-1905	2,488	1,621	4,109	415	365	780
1906-1910	2,708	1,724	4,432	518	410	928
1911	674	387	1,061	113	73	186
1912	624	394	1,018	117	78	195
1913	643	415	1,058	125	88	213
1914	760	462	1,222	118	81	199
1915	685	435	1,120	124	102	226

Of the admissions in 1915 natives of New South Wales numbered 745, England 227, Ireland 93, Scotland 55, other British countries 163, foreign countries 62, unknown 1.

The following table shows the number of admissions in relation to the population:—

Period.	Admissions (including Re-admissions).			Population per Admission.		
	Males.	Females.	Total.	Males.	Females.	Total.
1891-1895	2,060	1,317	3,377	1,566	2,106	1,777
1896-1900	2,280	1,537	3,817	1,526	2,005	1,719
1901-1905	2,903	1,986	4,889	1,267	1,696	1,441
1906-1910	3,226	2,134	5,360	1,247	1,743	1,444
1911	787	460	1,247	1,103	1,731	1,335
1912	741	472	1,213	1,232	1,749	1,433
1913	768	503	1,271	1,239	1,706	1,424
1914	878	543	1,421	1,106	1,625	1,304
1915	809	537	1,346	1,188	1,689	1,388

There was a marked increase in the admission rates of both sexes during the quinquennium, 1901-5, since that period the rates have been fairly constant.

The next table shows, in quinquennial periods, the numbers of patients who died or who were discharged from the hospitals, on account of recovery, permanent or temporary:—

Period.	Discharged.						Deaths.		
	Recovered.			Relieved.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1891-1895	815	633	1,448	108	99	207	742	350	1,092
1896-1900	880	737	1,617	125	131	256	887	364	1,251
1901-1905	1,132	891	2,023	149	139	288	1,100	573	1,673
1906-1910	1,134	964	2,098	221	164	385	1,311	651	1,962
1911	268	191	459	61	35	96	338	147	485
1912	287	199	486	62	43	105	335	166	501
1913	300	211	511	51	41	92	340	153	493
1914	341	222	563	69	48	117	301	168	469
1915	338	230	568	84	44	128	310	179	489

PER CENT. OF AVERAGE NUMBER RESIDENT.

1891-1895	7.9	10.0	8.7	1.0	1.6	1.2	7.2	5.5	6.6
1896-1900	7.3	9.8	8.2	1.0	1.7	1.3	7.3	4.8	6.4
1901-1905	8.1	9.8	8.8	1.1	1.5	1.2	7.8	6.3	7.2
1906-1910	6.9	8.8	7.7	1.3	1.5	1.4	7.9	6.0	7.2
1911	7.4	8.1	7.6	1.7	1.5	1.6	9.3	6.2	8.1
1912	7.7	8.2	7.9	1.7	1.8	1.7	9.0	6.9	8.2
1913	8.0	8.4	8.1	1.4	1.6	1.5	9.0	6.1	7.9
1914	8.7	8.5	8.7	1.8	1.8	1.8	7.7	6.4	7.2
1915	8.5	8.7	8.6	2.1	1.7	1.9	7.8	6.8	7.4

Ages of Mental Patients.

During 1915 there were 8,555 patients, 5,035 males and 3,520 females under care in the mental hospitals and licensed houses; these figures are exclusive of 146 males and 157 females who were transferred from one hospital to another. The admissions, discharges, and deaths during the year, classified according to ages, are shown below:—

Ages.	Admissions and Re-admissions.		Discharges.				Deaths.		Patients under Care during 1915.		
			Recovered.		Relieved, &c.						
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Years.											
0-4	8	8	...	...	...	1	3	...	23	14	37
5-9	10	9	...	...	1	1	1	2	42	20	62
10-14	14	8	...	1	6	2	2	1	60	42	102
15-19	32	29	12	5	6	3	6	3	176	105	281
20-29	160	113	61	54	27	11	11	8	742	539	1,281
30-39	190	131	92	63	22	10	44	24	1,112	761	1,873
40-49	164	98	80	62	5	6	55	38	1,092	815	1,907
50-59	119	81	63	35	10	3	60	35	966	701	1,667
60-69	61	35	20	4	6	4	53	22	540	323	863
70-79	44	20	9	5	4	2	55	26	240	145	385
80-89	7	4	1	1	...	1	19	16	35	52	87
90 & over	...	1	...	...	1	...	1	4	5	3	8
Not stated	...	...	...	...	...	...	...	...	2	...	2
Total ...	809	537	338	230	88	44	310	179	5,035	3,520	8,555

Analysis of the direct causes of deaths as certified, during 1915, shows the predominance of brain diseases generally, and of paralysis. Following are principal causes of death:—

Disease.	Males.	Females.	Total.
Inflammation and other Brain Diseases ...	30	27	57
General Paralysis	67	7	74
Other Cerebral Diseases	44	42	86
General Debility and Old Age	32	25	57
Pulmonary Tuberculosis	26	23	49
Diseases of Heart and Blood-vessels	27	17	44
Inflammation of Lungs, Pleura, and Bronchia...	21	11	32
Abdominal Diseases	52	19	71
Other Diseases	7	7	14
Accident and Suicide	4	1	5
Total	310	179	489

Causes of Insanity.

The records of persons admitted during 1915 show that among the exciting causes of insanity intemperance in drink is most prominent, particularly among men; among predisposing causes the most important are congenital defects, hereditary influence, and old age.

Cost of Maintenance.

The weekly cost of maintaining mental patients in Government hospitals during the year 1915 was 15s. 9½d. per patient, of which the State paid 13s. 0½d., the balance being derived from private contributions. The sub-joined table shows the average weekly cost per patient from 1906 to 1915:—

Year.	Annual Cost of maintenance of Patients.	Cost of maintenance of Patient per week.		
		To State.*	Private Contributions.	Total.
	£	s. d.	s. d.	s. d.
1906	143,245	8 8½	2 0½	10 9½
1907	149,728	8 9	2 1½	10 10½
1908	165,428	9 8½	2 2½	11 10½
1909	166,528	9 6½	2 2½	11 8½
1910	181,482	10 0½	2 2½	12 2½
1911	185,266	9 9½	2 3½	12 0½
1912	231,185	12 3½	2 5½	14 8½
1913	248,104	12 9½	2 8	15 5½
1914	249,832	12 2½	2 8½	14 11½
1915	268,795	13 0½	2 9	15 9½

The increase in the cost of maintenance is due mainly to benefits conferred on the staff, such as increased remuneration and shorter hours of work, and to the higher cost of commodities.

Duration of Treatment.

The duration of treatment of completed cases shows that, during 1915, of 568 cases recovered, viz., 338 men and 230 women, 360 had been under treatment for periods ranging from one to twelve months; 123 from one to two years, and 85 for longer periods. The following table shows the duration of treatment of those who recovered, and those who died during 1915:—

Length of Residence in Institution.	Recovered.			Died.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 month ...	9	4	13	24	25	49
From 1 to 3 months	93	31	124	27	13	40
" 3 6 "	63	45	108	34	9	43
" 6 9 "	47	22	69	24	11	35
" 9 12 "	25	21	46	17	7	24
" 1 2 years	56	67	123	42	23	65
" 2 3 "	20	18	38	23	13	36
" 3 5 "	15	11	26	28	16	44
" 5 7 "	6	1	7	20	7	27
" 7 10 "	...	6	6	14	11	25
" 10 12 "	3	2	5	9	12	21
" 12 15 "	1	...	1	15	8	23
Over 15 years ...	...	2	2	33	24	57
Total ...	338	230	568	310	179	489

Reception Houses for the Mentally Afflicted.

Reception houses have been established at Sydney, Newcastle, and at the local gaols in some country towns where affected persons are placed under observation. At Darlinghurst (Sydney) and Newcastle treatment is provided for attacks of short duration and for alcoholic cases, which have developed mental symptoms. The number of patients under care during 1915 was 1,732; 963 were transferred to mental hospitals, and 729 were discharged as recovered.

Persons who become mentally deranged in gaol are placed in the observation ward at the State Penitentiary at Long Bay; 55 persons were under observation during 1915.

Mental Ward.

A small hospital was established in 1908 by the Lunacy Department on a site adjoining the reception-house at Sydney, for the treatment of patients in the earlier and curable stages of mental diseases, wherein restraint or the special conditions of a hospital are not required. Accommodation is provided for 20 male patients; and during 1915 the number of cases treated was 156; 136 were discharged, 4 died, and 16 remained at the end of the year.

CARE OF THE FEEBLE-MINDED.

The question of mental deficiency has attracted considerable attention during recent years, and the national importance of providing supervision and treatment for the feeble-minded is widely recognised. The report of a Royal Commission in Great Britain, published in 1908, furnished much valuable information in relation to this subject, and an Amending Lunacy

Bill is under consideration in New South Wales, embodying the recommendations of the British Commission. The President of the State Children Relief Board as a Royal Commissioner recently investigated the methods adopted for the treatment of the feeble-minded in England, America, and other countries.

A proper system of classification is essential for the successful treatment of mental defectives; for the permanently incapable, permanent segregation in homes or farm colonies is recommended; and for the temporarily and conditionally incapable, training in special day and residential schools for children, and in homes for adults, with opportunity of working at various trades.

At present the only provision made by the State for the feeble-minded is at four cottage homes established by the State Children Relief Department, where, as previously stated, State children who are feeble-minded are accommodated, and at the Newcastle Hospital for the Insane, which is used for children who are certified as imbeciles or idiots. In connection with the medical inspection of school children, data are being collected by the medical officers as a preliminary to the establishment of special schools for mentally defective children.

DEAF MUTISM.

The number of persons who were deaf and dumb, as ascertained at the census of 1911, was 640, equivalent to one person in every 2,573 of the population.

The rate at ages 10 to 20 is the highest; whereas, since deaf-mutism is an affliction of childhood, it is reasonable to expect that the rates below those ages would be the highest. This probably arises from the unwillingness of parents to make known this infirmity in their children.

Age-group.	Number of Deaf Mutes.			Proportion per 1,000 of Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 10... ..	42	33	75	·22	·18	·20
10 and under 20...	89	86	175	·55	·54	·54
20 " 30...	70	55	125	·43	·35	·39
30 " 40...	59	52	111	·49	·47	·48
40 " 50...	33	35	68	·34	·43	·38
50 " 60...	21	21	42	·31	·41	·35
60 " 70...	13	16	29	·37	·54	·45
70 and over ...	2	7	9	·05	·17	·10
Not stated ...	1	5	6	...	...	...
Total ...	330	310	640	·38	·40	·39

Excluding children under 10, it will be seen that the rate declines more or less regularly as the age advances. At all ages over 30 the female rate is higher than the male.

BLINDNESS.

The number of persons afflicted with blindness at the census of 1911 was 1,011; this is equivalent to one person in every 1,629. The higher proportion which exists among males is probably due to the greater risk of accident to

which they are exposed. Blindness comes on with approaching old age, as will be seen below, where the numbers and proportion in various age groups are given:—

Age-group.	Number.			Proportion per 1,000 living.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 10... ..	16	10	26	·09	·05	·07
10 and under 20...	29	29	58	·18	·18	·18
20 " 30...	31*	32*	63	·19	·20	·20
30 " 40...	47	23	70	·39	·21	·31
40 " 50...	68	41	109	·70	·51	·61
50 " 60...	89	47	136	1·33	·93	1·15
60 " 70...	101	69	170	2·85	2·35	2·63
70 " 80...	136	97	233	7·88	7·02	7·49
80 " 90...	68	53	121	19·48	17·63	18·63
90 and over ...	3	13	16	12·55	45·30	30·42
Not specified ...	3	6	9	...	...	...
Total ...	591	420	1,011	·69	·53	·61

* Includes one blind-deaf-mute.

Among both sexes the rate increases from the lowest to the highest ages, and rapidly after age 60. Practically at all ages the male rate is higher than the female. The majority of young persons afflicted with blindness were probably so at birth.

The care and education of the blind and the deaf and dumb are undertaken at several institutions in New South Wales. The New South Wales Institution for Deaf and Dumb and the Blind is maintained partly by Government subsidy and partly by public subscriptions; special educational courses are provided, the fees being remitted in cases of financial inability. Denominational institutions for the instruction of male deaf mutes are conducted at Waratah and at Westmead, and one for blind girls at Liverpool.

The Sydney Industrial Blind Institution undertakes the care of the adult blind, and provides industrial training to enable them to earn a livelihood. Homes for blind women and for blind boys are conducted in connection with this institution, and a free circulating library of embossed books is provided.

Under the Commonwealth invalid pension system provision is made for the payment of pensions to permanently blind persons above the age of 16 years.

FRIENDLY SOCIETIES.

The first Friendly Society in New South Wales was founded in 1834, when the Australian Union Benefit Society was established; this society is still existent.

The first Act of Parliament to regulate Friendly Societies, passed in 1843, conferred certain legal advantages on societies established for the purpose of raising funds for mutual relief of the members.

In 1873 a more comprehensive Act was passed, and a Registrar was appointed to certify as to the accordance of the rules of the societies with

the law. To obtain the registration of a society under this Act it was essential that the table of contributions be certified by an actuary; but after registration, the society had power to vary the rates of subscription and the amount of benefits, so stultifying the requirements as to certification.

It was not until 1899 that these defects were remedied. In that year an Act was passed under which the supervision of the State was imposed upon societies in the conduct of their business, and in the safeguarding of their funds, collection of data as to membership, sickness and mortality experience, investigation of accounts; and expert advice was made available in their financial concerns, with actuarial oversight by means of periodic valuations.

In 1906, under further legislation, compulsory registration of all Friendly Societies was required, the only exception being as to dividing societies which annually distribute all their funds amongst their members, and stringent provisions were made to prevent misapplication of benefit funds.

In 1908 a new feature was introduced in the form of Subventions to Societies from the Public Revenue of the State, under the Subventions to Friendly Societies Act, 1908. This system is detailed subsequently.

The whole of the existing legislation was consolidated in the Friendly Societies Act, 1912, but in 1913 an amending Act was passed which provides that after valuation the Registrar may authorise surplus moneys belonging to any one fund or benefit to be used in any manner for the purpose of any other fund or benefit. An amending Act in 1916 provided that where the benefit funds are administered by one central body for the whole society they may be treated as one fund.

Benefits and Actuarial Valuations.

The benefits assured are fairly uniform in all societies, and consist usually of medical attendance and medicine for a member and his family, with sick pay for the member, and funeral allowances for the member and his wife. The average sickness benefit is 21s. per week during the first six months, 10s. 6d. for the next six months' illness, and 5s. per week for rest of illness, this last provision being rendered possible by the system of State Subventions, of which more detailed mention is made below. The funeral benefits usually range from £20 to £40 at death of the member, with a maximum benefit of £200; a contingent benefit of £10 or £15 is payable on death of the wife. A separate benefit for widows of members, usually £10, may be assured in most of the societies for a stated contribution.

The first quinquennial valuation of Friendly Societies required in compliance with the Act of 1899 was undertaken as at 31st December, 1904. Eighteen affiliated societies and thirteen single societies were valued.

At this valuation 96,422 members were valued for sickness benefit, and 97,511 for funeral benefits, with 51,155 subsidiary funeral benefits.

The valuation showed that there was a net deficiency of £271,620 on a total liability of £3,981,252, equal to 1s. 4d. per £1, or, in other words, a sum of only 18s. 8d. was available to meet each £1 of liability.

In his report, the Registrar made recommendations designed to strengthen the financial position of the societies, and to improve their status. Their effect was visible in the result disclosed by the second valuation, as at the 31st December, 1909, which showed that the position of the societies as a whole was sound.

The second quinquennial valuation was made on a $3\frac{1}{2}$ per cent. rate on the basis of the experience of the Friendly Societies in this State during the nine years 1900-8. Sickness and funeral benefits were valued for

116,186 members, funeral benefit only for 5,258, and sickness benefit only for 13,109 members. In addition, there were subsidiary risks on account of 54,391 persons, comprising members, their wives, and children.

In the third Quinquennial Valuation as at 31st December, 1914, the experience used in 1909 was again made the basis, but as the interest-earning rates had improved considerably during the quinquennium, a 4 per cent. rate was adopted in many cases. The risks valued for both Sick and Funeral benefits amounted to 156,443, whilst there were 22,582 for sickness only and 3,844 for funeral only. The usual subsidiary risks on account of wives, children, &c., were 72,448.

The combined results of the valuations of the seventeen affiliated societies showed a surplus of £311,753 in the Funeral Fund, and a deficiency of £162,539 in the Sickness Fund, the net result being a surplus of £149,214 on a total liability of £5,312,991. The single societies showed assets of £3,030 in excess of liabilities of £98,405. The liabilities of all societies for Sick and Funeral benefits were £5,411,716, whilst the total assets were £5,563,960, showing a surplus of £152,244; so that the assets were equal to £1 0s. 7d. for every £1 of liabilities. The results showed uniformly strong positions in the Funeral Funds, but there was a tendency to weakness in the Sickness Funds, necessitating an adjustment of the contributions in some cases.

Societies.

The societies may be divided into two classes, viz., **Friendly Societies proper**, and **Miscellaneous Societies**, whose objects bring them within the scope of Friendly Societies' legislation, but whose benefits differ somewhat from those of ordinary Friendly Societies.

At the end of the year 1915 the Friendly Societies proper numbered 39, and there were 28 Miscellaneous Societies; 17 of the former possessed branches, and 22 were classed as Single Societies, though in 2 cases juvenile branches were attached.

At 31st December, 1916, there were 64 Societies, including 25 Miscellaneous; 18 possessed branches, and 46, including 2 with juvenile branches, were classed as Single Societies.

The following summary shows the branches, membership, and funds as at 31st December, 1915:—

Classification.	Societies and Branches.	Members.	Funds.
Friendly Societies Proper—	No.	No.	£
Affiliated	1,880	174,453	1,824,533
Single	25	4,252	52,294
	1,905	178,705	1,876,827
Miscellaneous Societies	28	1,392	20,216
Total... ..	1,933	180,097	1,897,043

Friendly Societies Proper.

The societies classified as "Friendly Societies proper" offer such a wide range and appeal so strongly to individual sympathies that the field of operations for new societies is limited, and consequently few are now formed; the existing societies, however, extend their sphere of operations by opening branches in new centres. One new society was registered in 1914, and one was dissolved in 1916.

Membership.

The following table shows the number of members during the ten years ended 31st December, 1915:—

Year.	Aggregate Membership.		Year.	Aggregate Membership.	
	Members.	Percentage of Population.		Members.	Percentage of Population.
1906	106,678	7·1	1911	164,910	9·7
1907	117,130	7·6	1912	179,932	10·1
1908	123,440	7·9	1913	188,590	10·3
1909	133,273	8·3	1914	182,325	9·8
1910	149,579	9·1	1915	178,705	9·6

The membership of 178,705 at 31st December, 1915, represented 9·6 per cent. of the total population of the State. The number of members entitled to benefits was 160,712, the remainder being ineligible on account of brief membership or arrears of contributions. The benefits of medical attendance and medicine accrue also to the member's family, and, making allowance for such cases, it is estimated that approximately 600,000 persons, or one-third of the population, participate in the benefits provided by the societies.

The membership in 1915 comprised 161,659 men, 9,510 women, and 7,536 juveniles. As compared with the previous year there was a decrease of 3,225 men and 1,007 women, and an increase of 612 juveniles, the total net decrease being 3,620 members. This decrease is doubtless due to the depression caused by the war.

Finances.

Figures regarding receipts and expenditure of Friendly Societies, and the accumulated assets of all funds during each of the last ten years, may be found upon reference to Part Private Finance of this Year Book.

MISCELLANEOUS SOCIETIES.

In addition to the Friendly Societies proper there were at the end of 1915 twenty-eight Miscellaneous Societies registered under the Friendly Societies Act. Twenty-three were medical institutes or dispensaries which have no members in the ordinary sense of the term, but are supported by subscriptions from branches of Friendly Societies within their immediate districts, at a fixed rate per head of membership. The dispensaries supply medicine to all members whose names have been placed on their lists by contributing branches, and in some cases arrange also for medical attendance.

The receipts of the dispensaries in 1915 were £35,742, and the expenditure was £37,537, so that there was an excess of expenditure amounting to £1,795. These bodies have received liberal grants from the Government, and with this assistance have been able to purchase land and to erect buildings, the shares of the subscribing branches being covered by the issue of

interest-bearing debentures; but in addition to making the necessary interest payments, most of the dispensaries have been enabled to make substantial reductions in the principal.

Two of the remaining societies were Accident Societies, two were Medical Associations, and one provided for medical and out-of-employment benefits.

The following particulars of the Miscellaneous Societies relate to the year 1915:—

Classification.	Dispensaries.	Other Miscellaneous Societies.	Total.
Societies ... No.	23	5	28
Membership ... No.	.....	1,537	1,537
Receipts ... £	35,742	3,803	39,545
Expenditure ... £	37,537	4,134	41,671
Funds ... £	16,492	3,724	20,216

During the year 1915 two Miscellaneous Societies were registered, and three were closed; during 1916 two were closed.

STATE SUBVENTION OF FRIENDLY SOCIETIES.

To enlarge the sphere of usefulness of the Friendly Societies the Subvention to Friendly Societies Act, 1908, now consolidated with the Friendly Societies Acts, assured to the societies which might elect to be bound by its provisions, the following monetary benefits payable from the Consolidated Revenue of the State:—

1. Sick pay—

- (a) One half of the cost in each year in respect of continuous sickness after twelve months from the commencement of such sickness, for male members less than 65, and for females less than 60 years of age—provided that the maximum cost to the State shall not exceed 5s. per week for each case.
- (b) The whole cost of sick pay in respect of male members aged 65 years and over, and of female members aged 60 years and over—subject to the same proviso as above.

2. Amount equal to contributions payable—

- (a) On account of all male members 65 years and over, and of female members 60 years and over, for medicine and medical attendance, provided that such contributions shall not be more than those payable by members of the same society under the ages stated.
- (b) Under the rules of a society in respect of the aged members above mentioned, to assure payment of funeral allowance at their death.

With one exception all affiliated societies have become applicants under the Act.

The refunds of the societies on account of sick pay in 1915 to 2,775 members amounted to £16,548, and the payments on account of contributions to £9,221; of the latter amount £6,478 provided medical attendance and medicine to 4,909 aged members and widows, and £2,743 paid the contributions to the Funeral Fund of 5,251 aged members and widows.

The following is a summary of the claims for the seven years during which the system has been in operation:—

Year.	Applicant Societies.	Sick Pay.				Contributions.				Total Amount of Claims.
		Continuous Sickness.		Sickness of Aged Members.		Medical.		Funeral.		
		Claimant Members.	Amount.	Claimant Members.	Amount.	Claimants.	Amount.	Claimants.	Amount.	
1909	18	285	£ 925	701	£ 2,763	2,569	£ 1,348	2,486	£ 822	£ 5,858
1910	28	457	2,442	1,188	7,072	3,608	3,402	3,481	1,871	14,787
1911	30	576	2,837	1,417	8,428	3,194	4,028	3,400	2,055	17,348
1912	29	617	3,296	1,519	9,742	3,940	4,549	4,170	2,222	19,809
1913	29	681	3,480	1,607	10,065	4,300	4,874	4,521	2,297	20,716
1914	29	773	4,037	1,660	10,770	4,713	5,985	5,061	2,540	23,332
1915	28	904	4,865	1,871	11,683	4,909	6,478	5,251	2,743	25,769

During the seven years the Societies have received £127,619 in subvention. The amount paid in 1909 was comparatively small, as the majority of applicant societies did not register as such until the middle of the year; during 1910 there were 10 more applicant societies, and the claims practically covered the whole of the year, consequently there was a large increase in the amount paid. In 1911 and 1912 there were further large increases, due to special causes; it is probable that henceforth the increase will be gradual.

The system has been of benefit to all the societies, but more particularly to those in which the proportion of aged members is large.

THE FRIENDLY SOCIETIES' EXPERIENCE OF SICKNESS.

The returns of the Friendly Societies of New South Wales furnish valuable information relating to the sickness and mortality of the members, and a standard of purely local experience is provided as a basis of the quinquennial valuations of the societies, by their experience recorded for the nine years 1900-08.

During this period the sickness of the male members aggregated 859,412 weeks, the annual rate per member being 1·30 weeks. The Victorian male experience for the years 1903-1912 was 1·56 weeks; the experience of the women was too small to be of any practical value.

The membership below the age of 18 years was insufficient to provide reliable quotations, and owing to sparseness of data at the higher ages, the rates were not extended beyond age 65 as the upper limit. The following table shows the average annual weeks of sickness per member in New South Wales at every fifth year of age during the years 1900-08 in comparison with the experience of the Manchester Unity Friendly Society of England, 1893-7, the South Australian Friendly Societies, 1895-1904, and the Victorian Friendly Societies, 1903-7:—

Central Age.	New South Wales Friendly Societies, 1900-1908.	Manchester Unity, England, 1893-1897.	South Australian Friendly Societies, 1895-1904.	Victorian Friendly Societies, 1903-1907.
Years.				
18	·84	·95	·74	·91
23	·76	·90	·77	·86
28	·74	·97	·75	·85
33	·75	1·10	·79	·89
38	·84	1·33	·89	·99
43	1·02	1·65	1·04	1·20
48	1·32	2·11	1·32	1·46
53	1·85	2·98	1·80	2·10
58	2·94	4·41	2·84	3·82
63	4·63	7·15	4·44	6·56

The New South Wales experience approximates closely to that of South Australia, but is considerably below the experience of England and of Victoria.

The male rates decrease down to age 29, and then increase regularly to the end of the observed period of life. The phenomenon of high rates at the early ages is not explained on the ground of paucity of data, as the same result was exhibited in the experience of individual societies whether their membership was large or small. The sickness rates of the Friendly Societies of other States of the Commonwealth disclose a similar feature, and it must be concluded that such high rates are peculiar to this class of experience, and probably induced by the liberal benefits available.

Hazardous Occupations—Extra Sickness Risk.

The only well-defined class of occupations carrying a heavy risk, the experience of which was deducible from the available records of the societies, was that of the mining section. An experience of all persons engaged in the work of mining could not be secured, but an investigation was made of the branches of which the members were nearly all miners, and the experience obtained may be assumed to fairly represent this particular class.

The following table shows a comparison of the rates of sickness of the mining and non-mining branches as disclosed by the valuation of 1909:—

Branches.	Weeks of Sickness.	
	Total.	Annual Rate per Member.
Mining	154,251	1·613
Non-mining	705,161	1·249
Total	859,412	1·301

The effect of the added sickness of the mining population was to raise the general rate by 4·2 per cent., the mining being 29·2 per cent. above the non-mining rate. It is unfortunate, in view of the results disclosed by this section of persons engaged in hazardous occupations, that other such dangerous occupations could not be traced, but the data were too scanty for exhaustive investigation.

MORTALITY.

Experience of Friendly Societies.

The following figures show the mortality experience per 1,000 men of the principal societies over the valuation period 1905-1908, and the variation from the expected rates derived from the aggregate experience of the societies in the years 1900-8:—

Society.	Age-group.										All Ages.	Percentage of expected.	
	Under 20.	21 to 25.	26 to 30.	31 to 35.	36 to 40.	41 to 45.	46 to 50.	51 to 55.	56 to 60.	61 to 65.			66 and over.
A.O.F. (Sydney)	3·11	2·46	4·10	0·39	4·04	2·73	7·02	14·50	27·67	47·27	86·96	7·36	90
G.U.O.O.F.	3·30	3·11	2·58	3·33	4·13	5·22	7·14	10·62	22·01	30·43	52·73	6·34	88
H.A.C.B.S.	4·08	2·68	3·39	5·23	4·82	6·57	14·49	7·08	23·69	45·92	64·52	6·03	188
I.O.O.F.	1·64	2·92	1·73	2·39	4·63	7·01	9·71	15·49	24·12	40·86	50·80	6·07	93
M.U.	3·02	2·17	2·85	5·15	4·99	5·69	8·51	11·64	20·02	22·73	67·43	7·91	82
P.A.F.S.	1·80	2·78	1·96	2·76	4·45	5·27	6·44	14·13	12·31	25·34	59·36	6·90	78
S.D.T.	2·99	4·90	1·23	5·14	6·12	3·48	7·18	11·99	13·73	45·07	67·89	16·00	85
U.A.O.D.	2·25	2·39	3·14	3·87	3·91	10·36	10·74	14·95	22·19	39·92	79·01	7·66	105
All Societies..	2·80	2·63	2·80	3·91	4·52	6·14	8·66	12·39	20·25	31·98	66·07	7·27	91

In conjunction with the low sickness experience of the members, there was also a low mortality rate. During the nine years 1900-8 the male adult experience comprised 791,856 exposures to risk for one year each, and there were 5,952 deaths, the rate being 7.52 per thousand.

EXPECTATION OF LIFE.

Tables showing the average expectation of life as deduced from the experience of Friendly Societies in New South Wales, and the expectation of life for males and females in each State of the Commonwealth, are shown in Part "Private Finance" of this Year Book.

PENSIONS.

New South Wales Government Pensions.

No general pension system, other than the old-age and invalid pensions noted subsequently, is in operation in New South Wales, but three pension funds have been established in connection with sections of the Public Services, and are maintained partly by deductions from officers salaries and partly by public revenue, viz., the Public Service Superannuation Fund, the Police Superannuation and Reward Fund, and the Government Railways Superannuation Fund. A Provident Fund for employees of the State Government and other public bodies will be established under the Superannuation Act, 1916, which will come into operation at the beginning of the financial half-year following a period of six months after the proclamation of peace.

The Public Service Superannuation Fund was established by the Civil Service Act, 1884; contributions by officers of the service were at the rate of 4 per cent. of salary. Since the Public Service Act of 1895 came into operation no new contributors have been admitted, and at that date the existing contributors were given the option of withdrawing from the fund. The officers who elected to discontinue their contributions are entitled under prescribed conditions to receive refunds and gratuities on retirement; officers who have continued to contribute are entitled to an annual pension equal to one-sixtieth of the average annual salary for the last three years' service, multiplied by the years of service, the pensions being payable on retirement through incapacity or at age 60, or on abolition of office. An Amending Act in 1903 provided that on the Superannuation Account becoming exhausted all amounts payable to or out of that account should be paid to or out of the Consolidated Revenue. During the year 1915-16 the expenditure was £158,617, consisting of pensions, £151,548; refunds of contributions, £6,903; and gratuities, £166; contributions by public servants amounted to £11,748; the balance, 146,869, representing the net charge to Consolidated Revenue. In addition to these amounts, a sum of £3,500 is appropriated annually in terms of the Constitution Act for the payment of pensions to certain Government officers; the pensions paid during 1915-16 amounted to £3,161, the balance unallotted being £339.

The pension fund for the police force was established in 1899, amending legislation being passed in 1906. Annual contributions by members of the service are at the rate of 4 per cent. of salary; other sources of revenue are penalties imposed on members of the police force, and penalties and damages awarded to the police as prosecutors, also the proceeds of the sale of unclaimed goods in possession of the police. The amount of pension payable to members who entered the police service prior to 1906 is graduated in accordance with length of service, and ranges from half the salary, less 3 per cent. on retirement after fifteen years' service, to the whole of the salary, less 3 per cent., after thirty years' service. For the members who entered the service after 1906 the pension is one-fortieth of the salary on

retirement for each year of service, less 3 per cent., up to a maximum of three-fourths of the salary on retirement; the retiring age is 60 years, except in cases of incapacitation, but under prescribed conditions the services of any member of the force may be retained until he reaches the age of 65 years. During the year ended 30th June, 1916, the receipts of the Public Superannuation and Reward Fund amounted to £75,333, including deductions from salaries, £31,833, and special appropriation from Consolidated Revenue, £43,500; the disbursements, £78,134, included pensions, £74,092; gratuities, £3,789; and miscellaneous, £253.

The Railway Service Superannuation Fund was established in October, 1910; the contributions from employees of the Railway and Tramway services are at the rate of $1\frac{1}{2}$ per cent. of salary, and the State provides all that is necessary beyond such contributions. The amount of pension payable is one-sixtieth of the average annual salary during term of service, multiplied by the number of years of service, the maximum pension being two-thirds of the average salary. At 30th June, 1916, there were 29,187 contributors; the number of pensions in force was 1,225, amounting in the aggregate to £83,479 per annum. The average rate of pension was £67 1s. 1d. per annum. Since the inception of the fund 1,457 pensions have been granted; and 224 pensioners have died, 131 being over and 93 under 60 years of age; 6 officers under 60 have been re-employed, and 2 pensions have been written off the books. During the year 1915-16 the receipts of the fund amounted to £67,022; the disbursements, representing pensions, gratuities, refunds, &c., amounted to £85,426. The assets of the fund at 30th June, 1916, amounted to £42,678, viz., cash in hand, £27,732, and £14,946 representing premiums paid for life insurance policies transferred by officers to the Board, this amount being recoverable with interest at $3\frac{1}{2}$ per cent. on maturity of policies.

The State Provident Fund will be established within six months after the commencement of the Superannuation Act, 1916, to provide pensions and other benefits for employees of the New South Wales Government and other public bodies, except those subject to the Railway Service and Police Superannuation Acts. Half the cost will be borne by the employees, except where otherwise provided, and the balance by the employers. The retirement age is 60 years, but women may elect to contribute for retirement at age 55; upon the death of a contributor or pensioner his widow will receive half the amount of pension for which he has contributed and £13 per annum for each child under 16 years. Contributions of employees will vary in accordance with age and salary; the rates in the following table indicate half cost payable twice each month:—

Age next Birthday.	Men.		Women.	
	First £52 to man, £26 to widow, £13 to each child under 16.	Subsequent increment £52 to man, £26 to widow.	Each £52 on retirement at age.	
			55 Years.	60 Years.
Years.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
16	0 2 6	0 2 2	0 2 0	0 1 2
20	0 3 2	0 2 10	0 2 8	0 1 7
25	0 4 5	0 3 11	0 4 0	0 2 4
30	0 5 9	0 5 2	0 5 11	0 3 5
35	0 7 6	0 6 10	0 8 9	0 4 10
40	0 9 11	0 9 2	0 13 4	0 6 11
45	0 13 11	0 13 2	1 2 7	0 10 6
50	1 2 1	1 1 3	2 10 6	0 17 10
55	2 5 11	2 4 10	.....	1 19 2
60	11 3 11	10 19 11	.....	10 4 5

Employees over 30 years of age may contribute at the rates prescribed for age 30 for pensions up to a maximum of £104, or if under 55 years £156, per annum. The amount of pensions will vary in accordance with salary, as shown hereunder:—

Annual Rate of Salary.		Pension.	Annual Rate of Salary.		Pension.
£	s	£	£	£	£
1	to 130	52	365	to 416	182
131	„ 156	65	417	„ 468	208
157	„ 208	78	469	„ 520	234
209	„ 260	104	521	„ 572	260
261	„ 312	130	573	„ 624	286
313	„ 364	156	625	and over.	312

Clauses of the Act, which came into operation when it received Royal assent, authorise the payment of pensions up to £104 per annum, without contribution, to employees who attain the age of 60 years after 1st January, 1914, and are retired after ten years' service. The Superannuation Act does not apply to employees having rights to pension or gratuity under the Civil Service Acts, but they may elect to come under it.

The following statement shows the total pensions and gratuities paid from the sources enumerated during the year ended 30th June, 1916:—

Particulars.	Public Revenue.	Contributions.	Total.
Pensions—	£	£	£
Judges	2,311	.....	2,311
Stipends to Clergy	200	.....	200
Public Service—			
Superannuation Act	139,800	11,748	151,548
Constitution Act	3,161	.....	3,161
Superannuation Act Repeal Act	14	.....	14
Police Superannuation and Reward Fund.	43,500	30,592	74,092
Government Railways Superannuation.	.....	76,884	76,884
Other	4,895	.....	4,895
Total Pensions	193,881	119,224	313,105
Gratuities—			
Railway and Tramway	6,711	.....	6,711
Public Works	60	.....	60
Imperial and State Contingents, South Africa and China.	656	.....	656
Public Service	166	.....	166
Police Superannuation and Reward Fund.	.....	3,790	3,790
Government Railways Superannuation Fund.	.....	2,544	2,544
Other	25,329	.....	25,329
Total Gratuities	32,922	6,334	39,256
Total Pensions and Gratuities	226,803	125,558	352,361

WAR PENSIONS.

The War Pensions Act, 1914-16, passed by the Commonwealth Parliament, provides for the grant of pensions upon the death or incapacity, as the result of warlike operations, of members of the Commonwealth Naval or Military

Forces, enlisted for or employed on active service outside Australia, or employed on a ship of war, or enlisted or appointed for service in connection with naval or military preparations or operations. The general administration of the Act is entrusted to a Commissioner.

The rates of pensions payable in case of death or total incapacity are based on the following scale:—

Rate of Pay.	Rate of Pension.		Rate of Pay.	Rate of Pension.	
	To widow on death of member.	To member upon total incapacity.		To widow on death of member.	To member upon total incapacity.
per day.	per fortnight.	per fortnight.	per day.	per fortnight.	per fortnight.
s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.
6 0 and under.	2 0 0	3 0 0	13 0	2 19 6	3 14 0
7 0	2 3 0	3 2 0	17 6	3 10 0	4 0 0
9 0	2 9 0	3 6 0	22 6	3 17 6	4 5 0
10 0	2 12 3	3 8 0	30 0	4 9 0	4 15 0
10 6	2 13 9	3 9 0	37 6	5 0 9	5 5 0
11 6	2 16 0	3 11 0	45 0	5 12 3	5 15 0
12 0	2 17 3	3 12 0	50s. and over.	6 0 0	6 0 0

In the case of death the rates of pension are as follow:—To the widow or the widowed mother of an unmarried son the rate as specified above; to each child under 16 years of age, 20s. per fortnight for the first, 15s. for the second, and 10s. for each subsequent child; and to other dependents, rates as assessed by the Commissioners, but not exceeding in the aggregate the rates specified above, plus £2 per fortnight. In the case of total incapacity, the rates are—to the member, the rate specified above; to his wife, 50 per cent. of that rate; to children under 16 years of age and to other dependents, the same as in the case of death.

In the case of partial incapacity the rates as assessed by the Commissioner; for loss of both legs, feet, arms, hands, or eyes, or of arm and leg, hand and foot, or one eye, together with leg, foot, hand, or arm, the maximum rate is payable to the member; for loss of one eye, half-rate; for loss of leg, foot, hand, or arm, maximum rate for six months, thereafter three-fourths.

Where the pension payable is not more than 30 per cent. of the rate for total incapacity payment of a lump sum may be substituted. The maximum pension payable to a child under 16 years whose parents are dead is £1 per fortnight up to 10 years of age, 25s. at ages 10 to 14 years, and 30s. at ages 14 to 16 years; and except to a wife, child, widow, parent, or grandparent, no pension is payable for more than two years to any dependent who is able to earn a livelihood. Pensions to female dependents may not be continued for more than two years after marriage or re-marriage.

Operations under the War Pensions Act to 28th April, 1916, were as follow:—

	In New South Wales.	In Commonwealth.
Pension claims received ...	3,409	10,704
granted ...	2,064	6,266
cancelled ...	21	233
Deaths ...	6	20
Annual liability at 28/4/16 ...	£69,057	£199,079

COMMONWEALTH LITERARY FUND.

The Commonwealth Literary Fund was established by the Federal Government in 1908 to assist Australian authors who by reason of age or infirmity are unable to support themselves, families of literary men who have died

poor, and literary men doing good work but unable on account of poverty to continue in that work. A sum of £700 is now voted annually for the purposes of the fund. The maximum amount payable to an adult is £1 per week, and in respect of each child, 10s. per week, but no one family may receive more than £2 per week.

INVALID AND OLD-AGE PENSIONS.

Invalid Pensions.

Invalid pensions were first paid in New South Wales under the Invalidity and Accidents Pensions Act, passed by the State Parliament in 1907, which allowed pensions up to £26 a year to persons over 16 years of age permanently incapacitated for any work.

The State system was maintained until the payment of invalidity pensions was undertaken by the Commonwealth on 15th December, 1910. The pensions paid during the currency of the State Act amounted to £235,012.

The conditions attaching to invalid pensions payable by the Commonwealth are similar to those prescribed by the State Act; the amount of pension is the same as in the case of old-age pensions. The applicant must have resided for at least five years, and have become incapacitated or blind in Australia; persons permanently incapacitated or blind by reason of congenital defect are regarded as having become so in Australia, if brought to Australia before the age of 3 years. Invalid pensions are not payable to persons whose income or property exceeds the limits prescribed in the case of applicants for old-age pensions, or whose relations adequately maintain them. Aliens, Asiatics (except those born in Australia), and aboriginal natives of Australia, Africa, Pacific Islands, and New Zealand are not qualified to receive invalid pensions.

Prior to the commencement of the Commonwealth invalid pension system, New South Wales was the only State in which such a pension scheme was operative; in Victoria pensions were payable to persons permanently disabled whilst engaged in certain hazardous occupations, but only 111 claims were taken over by the Commonwealth. The pensions taken over from New South Wales at 15th December, 1910, numbered 3,498; particulars of transactions in New South Wales since that date are shown below:—

Year ended 30th June.	New Claims.	Lapses.			Invalid Pensions current in New South Wales at 30th June.		
		Deaths.	Cancellations and Transfers.	Total.	Males.	Females.	Total.
*1911	1,307	135	84	219	1,975	1,869	3,844
1912	1,784	404	135	539	2,549	2,278	4,827
1913	1,631	450	209	659	2,962	2,837	5,799
1914	1,825	530	186	716	3,537	3,371	6,908
1915	2,204	383	150	538	4,158	3,980	8,138
1916	2,001	445	99	544	4,819	4,537	9,356

* From 15th December, 1910.

The invalid pensions current in New South Wales on 30th June, 1916, represented 5 per thousand of population compared with 4·8 for the Commonwealth.

Old-age Pensions.

The old-age pension scheme sanctioned by the Old-age Pensions Act, 1900, passed by the Parliament of New South Wales, commenced to operate on 1st August, 1901, and virtually expired on 1st July, 1909, when that portion of the Commonwealth Invalid and Old-age Pensions Act, 1908-1909, which relates to the payment of old-age pensions to men, came into operation. The portion of that Act authorising payment of pensions to women on attaining age 60 commenced to operate on 15th December, 1910.

The total amount paid for old-age pensions for the period of nine years during which the State system was in operation was £4,009,127, and the cost of administration £165,560 approximately. On the introduction of the Commonwealth administration, 21,292 State pensions were converted.

The conditions governing the payment of old-age pensions under the Commonwealth have varied but slightly from the conditions prevailing under the State Act; the age qualification is 60 years for women and 65 years for men, with a reduction to 60 years in case of men permanently incapacitated; the length of residence qualification is twenty years in Australia, but absences amounting in the aggregate to one-tenth of the total period of residence are permitted. Naturalised persons are eligible for pensions, but aliens and aboriginal natives are disqualified.

Up to the 12th October, 1916, the maximum pension payable was £26 per annum; since that date it has been £32 10s. per annum, with proportionate reduction in respect of any income or property of the claimant, so that the pensioner's income with the pension shall not exceed £58 10s. per annum; in computing income any benefits accruing from friendly societies are not to be reckoned as income, nor any gifts and allowances from children or grandchildren; in assessing the value of property the home in which pensioner permanently resides is not included. Money payable to a pensioner while he is an inmate of a benevolent asylum or hospital may be paid to the asylum or hospital for his benefit.

Prior to the introduction of the Commonwealth system, old-age pensions had been payable in three States—New South Wales, Victoria, and Queensland.

The following statement shows the applications received in New South Wales, and the number of old-age pensions current on 30th June in each year:—

Year ended 30th June.	New Claims.	Lapses.			Old-age Pensions current in New South Wales at 30th June.		
		Deaths.	Cancellations and Transfers.	Total.	Male.	Female.	Total.
1910	7,588	1,680	126	1,806	13,169	12,046	25,215
1911	6,174	2,100	402	2,502	14,572	13,588	28,160
1912	4,763	2,421	566	2,987	13,639	16,029	29,668
1913	4,288	2,459	628	3,087	14,078	16,791	30,869
1914	4,819	2,755	768	3,523	14,217	17,948	32,165
1915	4,732	2,845	834	3,679	14,569	18,335	32,904
1916	4,375	2,884	936	3,820	14,630	18,619	33,249

The old-age pensioners in New South Wales represent 17·8 per thousand of population; in the Commonwealth as a whole the rate is 18·6.

The total expenditure by the Commonwealth on invalid and old-age pensions during the year ended 30th June, 1916, was as follows:—

	£
Paid as pensions	2,859,766
Paid to benevolent asylums for maintenance of pensioners ...	31,831
Cost of administration	44,401
Total	£2,935,998

Old-age and Invalid Pensions current in Australia.

The following statement shows for each State of the Commonwealth the number of old-age and invalid pensioners and the approximate liability for one year calculated on the basis of pensions current at 30th June, 1916:—

State.	Number of Pensioners.			Per 1,000 of Population.		Annual Liability (approximate).
	Old-age.	Invalid.	Total.	Old-age.	Invalid.	
New South Wales..	33,249	9,356	42,605	17·8	5·0	£ 1,073,904
Victoria	28,446	6,869	35,315	20·1	4·8	893,178
Queensland	12,049	2,954	15,003	17·7	4·3	378,534
South Australia ...	9,318	1,675	10,993	21·0	3·8	273,182
Western Australia..	4,199	1,057	5,256	13·2	3·3	132,002
Tasmania	4,522	1,528	6,050	22·5	7·6	149,552
Total	91,783	23,439	115,222	18·6	4·8	2,900,352

HOUSING.

Occupied Dwellings.

The number of occupied dwellings in New South Wales at the Census of 1911 was 332,841; the classification according to the nature of dwellings is shown below:—

Nature of Dwelling.	Dwellings.	Proportion per cent.	Nature of Dwelling.	Dwellings.	Proportion per cent.
Private house	317,462	95·38	Military and Naval Establishment	112	·03
Tenement in Private House ...	2,304	·69	Police Barracks	28	·01
Caretaker's Quarters in Store, Offices, &c.	237	·07	Police Station and Quarters ...	534	·16
Hotel	2,795	·84	Fire Station	65	·02
Boarding-house, Lodging-house, Coffee Palace	5,966	1·79	Unspecified	68	·02
Educational Institution	229	·07	Wagons, Carts, Trains, &c. ...	250	·08
Religious Institution (not educational)	135	·04	Aboriginal Camps in which Whites or Half-castes were living... ..	21	·01
Hospital	479	·14	Other Camps without dwellings	1,865	·56
Charitable Institution (other than Hospital)	159	·05			
Penal Establishment	132	·04	Total	332,841	100·00

Private dwellings, including tenements, numbered 319,766, or 96·07 per cent. of occupied dwellings; boarding and lodging houses, 5,966, or 1·8 per cent.; hotels, 2,795, or ·8 per cent.

The inmates of private dwellings numbered 1,494,504, or 91·2 per cent. of the total population of the State. The next statement shows the number of inmates according to the size of the dwellings; it will be seen that nearly 25 per cent. of the inmates of private dwellings reside in houses containing 5 rooms, while 84 per cent. reside in houses containing from 4 to 9 rooms:—

Rooms.	Inmates.			Proportion per cent.		
	Private Dwellings.	Other Dwellings.	Total.	Private Dwellings.	Other Dwellings.	Total.
1	28,656	695	29,351	1·93	·54	1·82
2	38,541	247	38,788	2·59	·19	2·40
3	88,295	506	88,801	5·93	·40	5·49
4	303,967	1,291	305,258	20·42	1·01	18·88
5	366,640	3,909	370,549	24·63	3·06	22·93
6	295,975	9,132	305,107	19·88	7·15	18·88
7-9	289,050	24,216	313,266	19·42	18·95	19·38
10-14	65,062	27,625	92,687	4·37	21·62	5·73
15-19	8,234	14,708	22,942	·55	11·51	1·42
20 and over	4,172	45,442	49,614	·28	35·57	3·07
Unspecified	5,912	11,067	16,979	...	...	...
Wagons, carts, trains, &c	...	1,160	1,160	...	...	...
Camps ... ..	...	4,181	4,181	...	...	...
Total	1,494,504	144,179	1,638,683*	100·00	100·00	100·00

* Exclusive of 8,051 Shipping.

The principal materials used for building are wood and bricks, 49·7 per cent. of the occupied dwellings being built of the former and 36·4 per cent. of the latter; 3 per cent. are built of stone and 2·7 per cent. of iron. A classification of the dwellings and inmates according to materials used is as follows:—

Materials.	Occupied Dwellings.			Inmates.			Proportion per cent.	
	Private.	Other.	Total.	Private Dwellings.	Other Dwellings.	Total.	Dwellings.	Inmates.
Stone	9,020	960	9,980	46,213	18,992	65,205	3·0	4·0
Brick	114,679	6,462	121,141	557,993	80,151	638,144	36·4	38·9
Concrete	865	42	907	4,431	396	4,827	·3	·3
Iron	8,851	152	9,003	37,013	1,763	38,776	2·7	2·4
Wood	162,493	3,022	165,515	783,484	33,586	817,070	49·7	49·9
Sun-dried bricks	1,875	7	1,882	9,360	69	9,429	·6	·6
Placé	1,741	22	1,763	10,023	263	10,286	·5	·6
Lath and Plaster	791	4	795	3,835	40	3,875	·2	·2
Wattle and Dab	744	3	747	3,391	23	3,414	·2	·2
Bark	1,290	8	1,298	3,317	74	3,391	·4	·2
Bushes, Rushes, Spinifex, &c.	15	...	15	48	...	48	·0	·0
Calico, Canvas, Hessian	15,706	156	15,862	28,562	965	29,527	4·8	1·8
Euberoïd and other compositions.	130	2	132	516	28	544	·0	·0
Unspecified	1,566	99	1,665	6,318	2,488	8,806	·5	·5
Wagons, carts, trains, &c....	...	250	250	...	1,160	1,160	·1	·1
Aboriginal Camps, in which Whites or Half-castes were living ... ..	...	21	21	...	151	151	·0	·0
Other camps without dwellings ... ..	...	1,865	1,865	...	4,030	4,030	·6	·3
Total	319,766	13,075	332,841	1,494,504	144,179	1,638,683*	100·0	100·0

* Excludes Shipping, 8,051.

New Buildings.

In regard to population it has been shown that the density of settlement in Sydney and the suburban areas varies considerably. The extent of

building operations, as shown by the records of past years, indicates an increase of dwelling-houses in New South Wales, but the major portion of that increase has been in suburban dwellings.

In Sydney improvements and resumptions have been continuous; 90 new buildings were erected during 1916, and 478 were altered or enlarged. Since 1909 many of the old buildings have been demolished, and in the rebuilding on the areas thus made available modern requirements have been kept in view; but apart from them there has been a distinct, though gradual, development of an architectural style adapted to local conditions. In the suburbs the cottage plan of dwelling-house is favoured. During the past five years new buildings have been erected in the city and suburbs at a rate averaging 7,469 per annum:—

Year.	New Buildings.			Net Increase of Population, Sydney and Suburbs.
	Sydney.	Suburbs.	Total.	
1912	290	8,049	8,339	38,000
1913	281	9,061	9,342	30,600
1914	206	8,342	8,548	27,100
1915	123	5,943	6,066	10,500
1916	90	4,961	5,051	1,600

Since 1911 the number of new buildings in the suburban areas has largely increased, but there has been a considerable decline in building operations since the commencement of the war.

Rental Values of Dwellings.

The rental values of private dwellings have undergone considerable changes in late years. Information upon the subject may be found in the chapter of this Year Book relating to Food and Prices.

GOVERNMENT HOUSING AREAS.

With the object of relieving the urgent demands for small dwellings, the Housing Act was passed in 1912, authorising the construction of dwellings by the Government. The administration of the Act is entrusted to a Housing Board, which controls the Government housing areas. The Board may erect buildings for residential and other purposes on land acquired by the Government, and may dispose of such land and buildings by lease or by sale.

The term of a lease may not exceed seven years, and the rental must be sufficient to cover interest at 4 per cent. on capital value, cost of insurance, rates, repairs, and maintenance, a proportionate part of management expenses, and a sinking fund in respect of the capital outlay. As regards disposal by sale, the selling price will be based on valuation by the Government Savings Bank Commissioners; no person may purchase more than one house and $\frac{1}{4}$ acre of land, and the buyer must satisfy the Board that he is purchasing the land for a home for himself or a member of his family.

The Dacey Garden Suburb, situated in the municipalities of Botany and Mascot, was placed under the Board's control on its appointment, and in May, 1912, the management of the Observatory Hill Resumed Area was transferred from the Harbour Trust Commissioners.

Dacey Garden Suburb.

The Dacey Garden Suburb is about 5 miles from the centre of the City of Sydney.

An area of Crown lands, covering 336½ acres, and valued at £21,872, was appropriated, and a sum of £75,000 was made available for the purposes of the suburb; in April, 1914, the expenditure of an additional amount of £150,000 was authorised. Reservations have been made for roads, parks, gardens, and other open public places, also for public buildings, schools, and for religious purposes, the area allotted for various purposes being as follows:—Roads, 76 acres; park lands, 31½ acres; Public Schools and Technical College, 7½ acres; churches, 5½ acres; police station, administrative buildings, &c., 5 acres; leaving 211 acres on which to erect cottages and shops. Calculated at seven cottages to the acre, this would provide approximately 1,437 cottages and 40 shops for the whole estate. The main roadway is 100 feet wide, with secondary roads 66 feet wide.

Building operations were commenced on 6th June, 1912, and 240 cottages, 6 shops, and 1 picture theatre had been completed at 30th June, 1917. The cottages are built of brick or concrete blocks, on stone or rubble foundations, with tile and slate roofs. The accommodation of the smallest dwellings is three rooms, and of the largest four rooms, kitchen, &c. The rentals ranged from 12s. 6d. to 18s. 6d., and the average cost from £276 to £640, which includes building, kerbing and guttering, asphaltting footpaths, turfing, sewerage connection, &c.

The expenditure to 30th June, 1916, amounted to £125,851, of which £85,192 represented the cost of erection of houses, and the balance the expenditure on drainage, levelling, and roadmaking; in addition a sum of £5,510 was paid as fees of the Board, salaries, wages, and other expenses. During the financial year 1915-16 the rentals contracted for amounted to £5,698, and the rents received to £5,661; at the end of the year the arrears of rent outstanding amounted to £39.

Observatory Hill Resumed Area.

The Observatory Hill Resumed Area is situated on the foreshores of Port Jackson, adjoining the wharves, and contains a number of business premises and residences, including dwellings, erected on the flat system, for waterside workers. The area comprises about 30 acres, and was acquired by the Government in 1900 in connection with the Darling Harbour wharves resumption; being the oldest settled portion of Sydney, practically the whole of the area required improvement. The capital employed amounted to £1,312,640 as at 30th June, 1916; the total revenue during the year 1916 was £62,181; and the expenditure £15,511, exclusive of interest on Loan Capital.

Sydney Municipal Housing Area.

An Act was passed in 1912 to enable the Municipal Council of the City of Sydney to erect and let dwelling-houses, and for that purpose to acquire land.

A block of flats has been erected by the Council on land acquired in Chippendale in connection with street improvements. The buildings are three storeys high, and cover a ground space of 279 feet by 78 feet; the total cost, including land, was £49,814. At each end there are four shops opening upon business thoroughfares, and the remainder of the building is divided into 71 suites of self-contained flats of two, four, or six rooms; the rents range from 12s. 6d. to 27s. 6d. per week.

STATE ADVANCES FOR HOMES.

Under the provisions of an Act passed in 1913 the Commissioners of the Government Savings Bank were authorised to make advances, to an aggregate amount of £300,000 in any financial year, to enable persons to erect or enlarge their homes or to purchase dwellings already constructed.

The Bank advances up to three-fourths of the value of the property to a maximum of £750, and the repayments in the case of new stone, concrete, or brick buildings are to be made within thirty years, and in the case of wooden structures within twenty years. No advance will be made to any person who at the time of the application is the owner of another dwelling in the State.

The system came into operation on 1st July, 1914; and up to 30th June, 1916, the amount of £520,275 had been advanced to 1,369 borrowers; £5,670 remains to be paid on the completion of buildings, so that the total advances to these persons will be £525,945, or an average of £384 each. The transactions during each year were as follows:—

Year ended 30th June.	Applications received.		Advances approved.		Advances made.	
	No.	Amount.	No.	Amount.	No.	Amount.
1915	840	£ 337,894	728	£ 283,870	575	£ 221,900
1916	928	333,490	927	346,175	794	298,375
Total ...	1,768	671,384	1,655	630,045	1,369	520,275

In the Murrumbidgee Irrigation Area the administrative authority may erect homes for settlers, the cost to be repaid by a deposit of 10 per cent., and the balance in twenty-four half-yearly instalments, with interest at 5 per cent. Settlers who build their own homes may obtain building materials on ten years' terms.

RELIGIONS.

Churches in New South Wales.

New South Wales being originally a Crown colony, the church establishment as existing in England was introduced. Subsequently, there was accorded to the clergy of each of the principal denominations support from the Crown in the form of subventions, which were continued under a statute passed in New South Wales in 1836, as an annual payment of £30,000 divisible between the Church of England, Roman Catholic, Presbyterian, and Wesleyan denominations. In 1862 these subventions were restricted to the clergy then actually in receipt of State aid, and in the succeeding year (1863) the subventions paid by the State amounted to £32,372, distributed as follows:—Church of England, £17,967; Roman Catholic, £8,748; Presbyterian, £2,873; Wesleyan Methodist, £2,784.

The number of recipients of these subventions in June, 1916, was two, the total allowance made during 1915-16 amounting to £200.

Church Constitution and Government.

The Church of England was represented in the settlement of New South Wales by a chaplain appointed and paid by the Crown, and episcopal oversight of the settlement vested, under an Order-in-Council in the Bishop of London.

In 1814 the territories under the Government of the East India Company, i.e., all the countries and places situate beyond the Cape of Good Hope and the Straits of Magellan, being not then (1600) occupied by any European power, were erected into the Bishopric of Calcutta. By Letters Patent under the Great Seal, dated 2nd October, 1824, there was constituted an Arch-

deaconry in and over the British territories within the Colony of New South Wales (*i.e.*, Australia and New Zealand), subject and subordinate to the jurisdiction of the Bishop of Calcutta.

In 1834 the Colonies of New South Wales and Van Diemen's Land were severed from the Diocese of Calcutta, and in 1836 all the territories and lands comprised within or dependent on the Colonies of New South Wales (still including New Zealand), Van Diemen's Land, and West Australia, were erected into the Bishopric of Australia. The important subdivisions were made subsequently of this Bishopric, *viz.*, New Zealand and Tasmania (Van Diemen's Land) formed into suffragan sees in 1842, and Sydney, Newcastle, Adelaide, and Melbourne dioceses erected in 1847. Further variations and subdivisions have resulted in the existence of twenty-four dioceses of the Church of England in Australia, of which seven are in the province of New South Wales, under a Metropolitan, *viz.*, Sydney, Newcastle, Goulburn, Bathurst, Armidale, Riverina, and Grafton.

By an Act passed in 1881, provision was made for the creation of corporate bodies of Trustees, in which property belonging to the Church of England may be vested, and trusts for various dioceses have been formed under the Act. They are entitled to hold, on behalf of the Church, all real and personal property which may be assigned to them by grant, will, or otherwise. In each diocese a Synod, consisting of clerical and lay representatives from each district, presided over by the Bishop, meets annually to make ordinances for the government of the Church. Each diocesan synod elects from its members representatives to sit at the Provincial Synod of New South Wales, which meets every three years, under the presidency of the Metropolitan of New South Wales, and to the General Synod of Australia and Tasmania, which meets every five years under the presidency of the Primate, the Archbishop of Sydney.

The Roman Catholic Church is under the direction of an Archbishop. The Archdiocese of Sydney originally included the whole Australian continent and its adjacent islands, and was erected in 1834 as the Vicariate Apostolic of New Holland. At intervals, subsequently, separate archdioceses were erected as follows:—Melbourne, Hobart, Adelaide, Brisbane, Wellington, and Perth, with fifteen Bishoprics, an Administration Apostolic in the Northern Territory, Vicariates Apostolic at Cooktown (Q.), Kimberley (W.A.), and New Guinea, and an Abbey at New Norcia (W.A.). Under the Archbishop of Sydney are the Suffragan Bishops of Maitland, Goulburn, Bathurst, Armidale, Wilcannia, and Lismore, the State of New South Wales forming an ecclesiastical province.

An Apostolic Delegation for Australasia was constituted in 1914, with headquarters at Sydney.

The various branches of the Presbyterian Church in the State are classified into seventeen Presbyteries, consisting of a number of separate charges, to each of which a Minister is appointed. The management of the affairs of the Presbyterian Church is controlled by a General Assembly, which sits annually, and consists of Ministers and Elders from the charges within the different Presbyteries. It is presided over by a Moderator, who is elected by the Presbyteries. By Act of Parliament, the Assembly has power to grant permission to trustees to mortgage Church property, and trustees are authorised to hold property for the Church generally. In July, 1901, a scheme of federal union was adopted by representatives from the various States, and the United Church is called the Presbyterian Church of Australia, the General Assembly of which meets alternately in the capital city of the various States every second year.

On 1st January, 1902, the Wesleyan Methodist Church, the Primitive Methodist Church, and the United Methodist Free Church in New South Wales entered into organic union, with a common name, common funds, common laws, and equal rights. The United Church is known as "The Methodist Church of Australasia." The South Sea Mission Districts are under the control of the New South Wales Conference, and embrace Tonga, Samoa, Fiji, New Britain, Papua, and Solomon Islands.

The Congregational Union of New South Wales was incorporated in 1882 by an Act which gives it legal status, and empowers it to hold property. The Union allows every separate church to maintain independence in the administration of its local affairs. Assemblies for the transaction of denominational business, &c., are held every six months.

The churches of the Baptist Denomination, which are independent of each other, are united together in a voluntary association called the Baptist Union of New South Wales, which holds annual and half-yearly meetings. The denomination has a fund controlled by trustees, from which churches are assisted on terms, with easy repayments. At the annual or assembly meetings, officers are chosen by nomination and ballot, and ministers or laymen are eligible for the highest positions. The churches raise considerable sums towards the prosecution of Home Mission work in this State, and maintain a very efficient and prosperous Foreign Mission Establishment in India.

The Salvation Army was established in Australia in 1881. Melbourne was made the chief centre for Australia under the command of a Commissioner; Sydney, Newcastle, Bathurst, and Armidale, are now district headquarters for New South Wales, each district being under direction of a divisional commander, all officers and members bearing military titles and designations; there are also treasurers and secretaries to corps. Persons who are in sympathy with the Salvation Army and attend its meetings, but who have not subscribed to the "articles of war"—which combine a confession of faith and a pledge against the use of intoxicating liquors and baneful drugs—are regarded as adherents.

The twenty Jews, who comprised the Sydney congregation in 1817, came into association for the interment of their dead. In 1828 regular prayer meetings were commenced, and shortly afterwards the visit of an officer of the London ecclesiastical court placed Jewish matters on a regularised footing. The first Jewish minister was appointed in 1835, and temporary premises were used for worship until a synagogue was built, and opened in 1844.

The various congregational movements in Sydney were amalgamated when the Great Synagogue was opened in 1878. A local ecclesiastical court was opened in 1905, when an ordained Rabbi arrived from England to become chief minister of the community, and president of its court. There have been other Jewish congregations, at West Maitland and Newcastle; and there is one in existence at Broken Hill.

The lay administration of the community is in the hands of the board of management of the Great Synagogue, which maintains intimate contact with the London Board of Deputies of the British Jews, the Anglo-Jewish Association, and similar bodies.

The New South Wales Board of Jewish Education, presided over by the Chief Rabbi, maintains a staff of professional teachers to exercise the right of entry at public schools under the Act, and to hold Sabbath classes. The Jewish community maintains a number of institutions for the care of its sick and poor.

Census Records of Religion, 1911.

The following statement shows for New South Wales the strength of religious denominations, as disclosed by the Census of 2nd April, 1911:—

Religion.	Males.	Females.	Total.
Christian—			
Church of England	380,324	353,676	734,000
Presbyterian	96,354	86,557	182,911
Methodist	75,512	75,762	151,274
Congregational	10,888	11,767	22,655
Baptist	9,891	10,788	20,679
Church of Christ	2,865	3,547	6,412
Salvation Army	3,475	3,938	7,413
Lutheran	4,824	2,263	7,087
Seventh Day Adventist	806	1,193	1,999
Unitarian	512	332	844
Protestant (undefined)	21,309	15,595	36,904
Roman Catholic	190,122	185,269	375,391
Greek Catholic	885	198	1,083
Catholic (undefined)	18,214	18,408	36,622
Others	4,503	4,552	9,055
Total	820,484	773,845	1,594,329
Non-Christian—			
Hebrew... ..	4,062	3,598	7,660
Mohammedan	776	43	819
Buddhist	437	11	448
Confucian	1,198	6	1,204
Pagan	254	.....	254
Others	2,238	150	2,388
Total	8,965	3,808	12,773
Indefinite—			
No Denomination	328	235	563
Freethinker	873	164	1,037
Agnostic	845	131	976
Others	1,022	613	1,635
Total	3,068	1,143	4,211
No Religion—			
Atheist	184	20	204
No Religion	2,228	446	2,674
Others	59	15	74
Total	2,471	481	2,952
Object to state	14,989	6,997	21,986
Unspecified	7,721	2,762	10,483
Grand Total...	857,698	789,036	1,646,734

The above figures are exclusive of 992 males, 722 females, total 1,714 persons, within the Federal capital territory, also 2,012 full-blooded Australian aboriginals living in the State, and 10 within the Federal capital territory.

An interesting comparison of the number of persons belonging to the principal religions at the date of each Census from 1891-1911 is afforded in the subjoined table. In this table "Catholic" (undefined) has been included with "Roman Catholic":—

Religious Denominations.	Number of Persons.			Proportion per cent.		
	1891.	1901.	1911.	1891.	1901.	1911.
Protestant—						
Church of England	503,054	623,131	734,667	45·32	46·58	45·46
Methodist	112,448	137,638	151,392	10·13	10·29	9·37
Presbyterian	109,390	132,617	183,099	9·86	9·91	11·33
Congregational	24,090	24,834	22,656	2·17	1·86	1·40
Baptist	13,029	15,441	20,679	1·18	1·15	1·28
Lutheran	7,950	7,387	7,087	·72	·55	·44
Unitarian	1,329	770	844	·12	·06	·05
Salvation Army	10,315	9,585	7,413	·93	·72	·46
Other Protestants	9,741	14,251	54,395	·87	1·06	3·37
Total, Protestants	791,346	965,654	1,182,232	71·30	72·18	73·16
Roman Catholic	286,911	347,286	412,680	25·85	25·96	25·54
Greek Church	253	561	1,083	·02	·04	·07
Others—						
Jew, Hebrew	5,484	6,447	7,660	·49	·48	·47
Buddhist, Confucian, Moham- medan, &c.	11,508	8,035	5,114	1·04	·60	·32
Freethinkers, Agnostics, &c. ...	6,358	3,564	3,929	·57	·27	·23
No Denomination, No Religion ...	8,062	6,265	3,239	·73	·47	·21
	1,109,922	1,337,812	1,615,937	100	100	100
Object to state	11,237	13,068	22,008	...	...	...
Unspecified	2,795	3,966	10,503	...	...	...
Total, New South Wales, } including Federal territory }	1,123,954	1,354,846	1,648,448	...	...	...

NOTE.—The figures for 1911, for purposes of comparison with the previous Census returns, include persons within the Federal capital territory.

MINISTERS FOR THE CELEBRATION OF MARRIAGES.

Under the Registration of Births, Deaths, and Marriages Act, 1899, ministers of religion desirous of celebrating marriages in New South Wales must be registered by the Registrar-General of the State. The total number of ministers registered in January, 1917, was 1,669, those for each denomination being:—Church of England, 498; Roman Catholic, 415; Methodist, 275; Presbyterian, 227; Congregational (Independents), 67; Baptist, 66; Church of Christ, 23; Salvation Army, 29; Seventh Day Adventist, 17; Jews, 5; German Evangelical Lutheran Church, 5; Evangelical Lutheran Church, 4; Free Presbyterian Church of Australia, 6; Reorganised Church of Jesus Christ of Latter Day Saints, 11; Australian Aborigines Mission, 3; Catholic Apostolic Church, 2; Aborigines Inland Mission, 2; and one each for the following:—Lay Methodist Church, Society of Friends (Quakers), Sydney Society of the New Church, The Free Church (Banksia), Unitarian Church, Church of Christ (Burwood), Greek Orthodox Church, Church of the Brethren, Particular Baptist Church, Sydney Christadelphian Ecclesia, Devonshire-street Mission, Full Gospel Mission, Stanmore Spiritualist Temple, Orthodox (Antioch) Church.

EMPLOYMENT AND INDUSTRIAL ARBITRATION.

EMPLOYMENT.

Age Distribution.

Legislation in regard to education, apprenticeship, and the regulation of industry determines age 14 as the normal minimum age at which children may find employment; the upward limit is naturally, for the majority of the population, within the age group 60-65, being defined for practical purposes by the fact that old-age pensions may be claimed from the Commonwealth Government on attainment by women of age 60, and by men of age 65. The population as at the census of April, 1911, classified in working and non-working or dependent ages—*i.e.*, infancy and old age—and exclusive of the population of the Federal Territory situated within the boundaries of New South Wales, was as follows:—

Age Groups.	Population at Census, 1911.			Percentage of Total.		
	Males.	Females.	Total.	Males.	Females.	Total.
Working ages—						
14-20	116,397	113,347	229,744	13·6	14·4	14·0
21-29	146,174	138,305	284,479	17·0	17·5	17·3
30-39	119,349	110,604	229,953	13·9	14·0	14·0
40-49	97,578	81,038	178,616	11·4	10·3	10·8
50-59	66,889	50,869	117,758	7·8	6·4	7·1
60-64	20,023	.....	20,023	2·3	...	1·2
Total	566,410	494,163	1,060,573	66·1	62·6	64·4
Non-working ages—						
Under 14	250,430	244,554	495,014	29·2	31·0	30·1
60-64 ... ..	.....	16,352	16,352	...	2·1	1·0
65 and over	36,368	30,134	66,502	4·2	3·8	4·0
Total	286,798	291,070	577,868	33·4	36·9	35·1
Unspecified	4,490	3,803	8,293	·5	·5	·5
Total, all ages	857,698	789,036	1,646,734	100·0	100·0	100·0

In every thousand persons in the population, 644 were classified in the working ages while the persons excluded from that category were approximately 351, the ages of the remaining 5 having been unspecified.

Occupations.

Records of occupation, however, show that the persons classed as breadwinners numbered only 437 per thousand of population. The following table displays the proportions of breadwinners to non-breadwinners:—

Classification.	Population at Census, 1911.			Percentage of Total.		
	Males.	Females.	Total.	Males.	Females.	Total.
Breadwinners—						
Specific Occupations	575,300	134,612	709,912	67·08	17·06	43·11
Independent	5,507	3,401	8,908	·64	·43	·54
Total	580,807	138,013	718,820	67·72	17·49	43·65
Dependent	265,731	650,480	916,211	30·98	82·44	55·64
Unspecified	11,160	543	11,703	1·30	·07	·71
Total	857,698	789,036	1,646,734	100·00	100·00	100·00

The persons whose occupations were unspecified, constituting only 7 per 1,000 of the total population, are negligible factors in comparison. Similarly, the independent class is relatively small, so that the population appears in two main sections—breadwinners in specific occupations, and dependents, the latter class, including married women and other persons engaged in services for which no money-wage is paid, such as domestic duties.

Dependent males comprised somewhat less than one-third of the male population, while dependent females represented five-sixths of the female population. The class, independent males, was numerically and relatively larger than the class, independent females.

The breadwinners were distributed in the occupational groups as follows:—

Class.	Males.	Females.	Total.	Percentage of Total Population.		
				Males.	Females.	Total.
Professional	36,763	19,377	56,140	2·23	1·18	3·41
Domestic	18,898	54,483	73,381	1·15	3·31	4·46
Commercial	88,208	18,112	106,320	5·36	1·10	6·46
Transport and Communication	60,367	1,597	61,964	3·66	·10	3·76
Industrial	171,921	36,093	208,014	10·44	2·19	12·63
Primary Producers	199,143	4,950	204,093	12·09	·30	12·39
Independent	5,507	3,401	8,908	·33	·21	·54
Total	580,807	138,013	718,820	35·26	8·39	43·65

Complete statements regarding occupations and ages of breadwinners at the Census of 1911 having appeared in each issue of the Year Book since that date, it is undesirable to repeat them except in the case of a few of the more important tables. Moreover, the census figures have lost much of their value on account of their remote date.

The present war conditions have necessarily caused great changes in the occupations of the people, especially in regard to the employment of women.

INTERCENSAL VARIATIONS.

Age Distribution.

The percentage variation as between the population of working and non-working ages in 1901 and in 1911 is as follows:—

Age Group.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Non-working ages—	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Under 14 years... ..	17·0	16·6	33·6	15·2	14·9	30·1
Males 65 and over ; females 60 and over	2·0	2·3	4·3	2·2	2·8	5·0
Total non-working ...	19·0	18·9	37·9	17·4	17·7	35·1
Working ages—						
Males 14—64 ; females 14—50	33·2	28·6	61·8	34·4	30·0	64·4
Unspecified	·2	·1	·3	·3	·2	·5
Total all Ages ...	52·4	47·6	100·0	52·1	47·9	100·0

The figures for 1911 are exclusive of the population in the Federal Territory. The increase of 4 per cent. in the proportion at working-ages reflects the results of the encouragement of immigration throughout the latter half of the decennium.

Dependency.

Taking two groups, breadwinners including persons of dependent means and indefinite occupations, and dependents, the proportion in each class per cent. of the total population at the respective census dates between 1861 and 1911 was remarkably constant; those whose occupations were not recorded have been excluded:—

Census Years.	Percentage Distribution.					
	Males.		Females.		Total.	
	Bread-winners.	Depend-ents.	Bread-winners.	Depend-ents.	Bread-winners.	Depend-ents.
1861	67·58	32·42	19·07	80·93	46·46	53·54
1871	63·19	36·81	16·01	83·99	41·67	58·33
1881	64·37	35·63	16·29	83·71	42·61	57·39
1891	63·13	36·87	17·36	82·64	42·09	57·91
1901	63·75	36·25	17·59	82·41	41·76	58·24
1911	68·61	31·39	17·50	82·50	43·96	56·04

Specified Occupations.

In regard to specific occupations, the grouping at each census was as follows; persons classed as independent have been excluded:—

Class.	1871.		1881.		1891.		1901.		1911.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Professional	6,817	2,075	11,546	4,288	21,186	10,417	26,555	14,529	36,763	19,377
Domestic	8,721	16,507	12,689	25,000	17,704	38,249	20,128	52,690	18,898	54,483
Commercial	23,119	2,473	41,441	4,194	50,837	4,782	67,097	10,567	88,208	16,112
Transport and Communication					34,208	500	42,822	1,045	60,367	1,597
Industrial	49,316	6,126	97,293	10,326	118,998	17,819	122,692	23,996	171,921	36,093
Primary Producers—										
Agricultural	45,733	6,361	60,365	6,520	66,478	7,022	75,884	1,735	77,599	1,636
Pastoral	17,169	1,666	17,333	2,385	27,212	334	31,312	595	69,724	3,266
Dairying					4,906	4,758	15,850	2,235		
Mining	18,529		18,393		30,936	1	38,378	4	39,551	23
Forestry									6,358	6
Other					5,224	3	6,788	23	5,911	19
Total	169,404	35,298	250,060	52,713	377,779	83,885	447,806	107,469	575,300	134,612

As stated previously, the figures and classification for 1871 and 1881 are not on a strictly comparable basis with those for the subsequent censuses. The percentage distribution of the persons in specified occupations for 1891, 1901, and 1911 was as follows:—

Class.	1891.			1901.			1911.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Professional	4·59	2·26	6·85	4·84	2·61	7·45	5·17	2·73	7·90
Domestic	3·83	8·29	12·12	3·63	9·49	13·12	2·66	7·67	10·33
Commercial	11·01	1·03	12·04	12·08	1·90	13·98	12·43	2·55	14·98
Transport and Communication	7·41	·11	7·52	7·71	·19	7·90	8·50	·23	8·73
Industrial	25·73	3·86	29·64	22·10	4·32	26·42	24·22	5·08	29·30
Primary Producers	29·21	2·62	31·83	30·29	·84	31·13	28·06	·70	28·76
Total	81·83	18·17	100·00	80·65	19·35	100·00	81·04	18·96	100·00

ANNUAL RECORDS OF PRIMARY AND MANUFACTURING INDUSTRIES.

For the intervals between the census periods, records as to the numbers of persons in occupations are restricted to the primary industries, and to the manufacturing section of the industrial group, concerning which groups annual returns are collected in this Bureau of Statistics. The following are the figures showing persons permanently employed in the principal industries of the State since 1911. The majority of women and girls engaged in agriculture and dairying are only partly so employed, in conjunction with, or in addition to, their usual domestic duties. In the manufacturing industry, employees in establishments where no machinery is used are not recorded, unless at least four persons are engaged:—

Year.	Agricultural.		Dairying.		Pastoral.	Mining.		Manufacturing.	
	Males.	Females.	Males.	Females.		Metal.	Coal and Shale.	Males.	Females.
						Males.	Males.		
1911	58,299	5,782	27,488	19,422	43,397	19,360	17,657	82,083	26,541
1912	58,984	5,779	26,537	18,439	41,893	19,807	18,051	88,178	27,383
1913	61,525	6,950	25,961	18,478	40,543	19,914	18,966	93,036	27,364
1915*	59,944	7,875	23,435	15,917	39,131	13,190	18,221	90,409	26,202
1916*	59,256	8,743	21,979	15,404	38,042	14,412	16,892	87,724	28,677

* Figures relate to year ended 30th June, except mining, which are for 31st December.

Since 1911 the number of persons employed in agriculture has increased, while in pastoral and dairying a decrease is evident; but, as in many cases, agriculture is associated with other rural occupations, persons may be returned as engaged in agriculture in one year, and in other rural pursuits in another year.

Grouping the figures shown above in Primary and Secondary Industries, the following results are obtained:—

Year.	Primary.			Secondary.— Manufacturing.	All Industries.		
	Rural.	Mining.	Total.		Males.	Females.	Total.
1911	154,378	37,017	191,395	108,624	248,274	51,745	300,019
1912	151,632	37,858	189,490	115,561	253,450	51,601	305,051
1913	153,457	38,880	192,337	120,400	259,945	52,792	312,737
1915*	146,302	31,411	177,713	116,611	244,330	49,994	294,324
1916*	143,424	31,304	174,728	116,401	238,305	52,824	291,129

* Figures relate to year ended 30th June, except mining, which are for 31st December.

ADEQUACY OF LABOUR.

Sparseness of population in every State is an outstanding feature of economic conditions throughout Australia, and in recent years the question has been raised in several States, including New South Wales, as to the necessity for the introduction of workers from abroad in order to provide adequate labour to continue the expansion of the natural resources of the States.

IMMIGRATION.

Commonwealth Control.

Power to legislate with regard to immigration and emigration is conferred upon the Commonwealth Parliament, under the Commonwealth of Australia Constitution Act, and the legislation under this section is contained in the following enactments:—Immigration Act, 1901-1912; Pacific Island Labourers Act, 1901-1906; Contract Immigrants Act, 1905; Emigration Act, 1910.

The enactments relating to immigration operate in the direction of restricting the right of entry of persons to the Commonwealth; they supersede and embody, with necessary modifications, the pre-Federation policy of the several States, which generally imposed limitations upon the admission, within their boundaries, of persons regarded as undesirable for medical and other reasons.

General Conditions.

The Acts define the classes of persons who come under the heading of prohibited immigrants, including persons who fail to pass prescribed dictation tests, or do not possess the prescribed certificate of health, criminals, and immoral persons, or persons otherwise undesirable. Persons suffering from serious transmissible or communicable disease are debarred specifically; also idiots, imbeciles, feeble-minded or epileptic persons; and the Immigration Act of 1912 makes special provision for the establishment of medical bureaux at places outside the Commonwealth; and for the appointment of medical referees in the Commonwealth or outside it, to conduct the medical examination of immigrants, or intending immigrants. The onus of the introduction of prohibited immigrants lies chiefly upon the masters, owners, agents, or charterers of vessels, a penalty of £100 attaching in respect of each such entrant or stowaway, as well as the liability for maintenance and deportation. A stowaway is defined as any person other than a *bona fide* passenger, or a member of the crew duly entered on the ship's articles. The administration is empowered to search vessels for stowaways.

Exemption from the general provisions of the Acts may be claimed by persons holding exemption certificates, by persons accredited by any Government, by members of the King's regular sea and land forces, and by masters and crews of public vessels of any Government, and of vessels trading to Commonwealth ports, providing, in regard to the vessels last mentioned, that if any of the crew be missing when the vessel clears the port, such person may be declared a prohibited immigrant, and the master be held responsible. The prescribed dictation test may be imposed at any time up to two years after the admission of an immigrant. Provision is made for the conditional entry of prohibited immigrants for a limited period.

Contract Immigrants.

The Contract Immigrants Act, 1905, regulates the admission of immigrants under contract to perform manual labour. Contracts in this connection must be in writing, made by or on behalf of some person named and resident in Australia. They are subject to Ministerial approval, which may be withheld if the fulfilment of the contract is likely to be prejudicial to the public welfare, either as affecting an industrial dispute, or as to the conditions of, and standards prevailing in, local industry. It may be withheld, also, if there is insufficient evidence of difficulty in obtaining a worker of equal skill and ability within the Commonwealth. This latter provision is not applicable to contract immigrants who are British subjects, born in the United Kingdom or descended from a British subject there born; nor does the Act apply to domestic servants and personal attendants accompanying their employers.

The following statement shows the number of contract immigrants admitted to Australia since 1907, and also the numbers of those whose contracts designated some locality in New South Wales as the subject place of the contract:—

Year.	Contract Immigrants admitted to Australia.			Contracts relating to New South Wales.
	British.	Non-British.	Total.	
1907	731	241	972	56
1908	20	2	22	14
1909	152	6	158	34
1910	38	1	35	10
1911	332	20	352	12
1912	201	16	217	89
1913	27	1	28	11
1914	20	...	20	1
1915	10	32	42	33
1916	3	35	38	36

During the year 1916 no contracts were disapproved, nor were any contract immigrants refused admission; the thirty-five non-British contract immigrants were American glass-bottle makers engaged to work either at Sydney or Melbourne.

The Pacific Island Labourers Act prohibits the importation, and regulates the deportation of Pacific Islanders engaged for labour on sugar plantations.

EMIGRATION.

The Emigration Act, 1910, operates in the direction of restricting the emigration of children and aboriginal natives from Australia, regulating contracts in relation thereto, and supervising the transportation or removal of prohibited emigrants.

ENCOURAGEMENT OF IMMIGRATION.

The Commonwealth.

Encouragement of immigration, as undertaken by the Commonwealth, has been confined to advertisement of the attractions of Australia generally, with a view to promoting the flow of voluntary immigration to the different States.

The amounts expended by the Commonwealth during the years 1911-16 are shown in the following statement:—

Expenditure.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
	£	£	£	£	£
In United Kingdom—					
For Newspaper advertising	4,839	4,073	29,542	12,921	2,770
For other purposes ...	8,444	10,284			
In Australia ...	6,713	5,905	11,004	4,403	1,750
Total ...	19,996	20,262	40,546	17,324	4,520

The amounts expended in Australia are chiefly the costs of advertising, of the production of photographs, lantern slides, and cinematograph films, and publications, in which are described conditions of life and industry in Australia.

The State Policy.

State-assisted immigration was inaugurated in New South Wales in the year 1832, and maintained until 1885. After an interval of twenty years, the policy was resumed in 1905.

The following statement shows the expenditure on, and the resulting increase of population from, the encouragement of immigration by the State grants, in the period 1910-16:—

Year ended 30th June.	Expenditure, exclusive of Administration.	Immigrants assisted.						Unassisted Immigrants placed in employment.
		Nominated.		Selected		Total.		
		Males.	Females.	Males.	Females.	Males.	Females.	
	£							
1910	26,815	1,068	1,184	1,455	526	2,523	1,710	1,730
1911	32,786	2,422	2,317	1,960	599	4,382	2,916	2,317
1912	59,186	4,577	4,304	2,942	1,033	7,519	5,337	3,269
1913	69,656	5,002	6,148	1,745	754	6,747	6,902	3,787
1914	33,158	1,983	3,401	662	768	2,645	4,169	3,377
1915	24,501	495	825	126	250	621	1,075	584
1916	13,570	335	553	19	133	354	686	249

For the financial year 1916-17 the sum of £5,000 was voted for the promotion of immigration and advertising the State, whilst an additional sum of £3,594 was voted to meet the proportion of the joint expenditure of the amalgamated Immigration Department of New South Wales and Victoria which is chargeable to New South Wales. These votes are supplementary to the usual vote, approximating £14,000, for maintenance and administration of the Immigration Office in London, and of the Immigration and Tourist Bureau in Sydney.

Nomination and selection of immigrants are confined chiefly to persons in the United Kingdom, and the following statement shows the proportion of British subjects, in comparison with foreign-born, among assisted immigrants, in the period 1910-1916:—

Year ended 30th June	Immigrants from—						Total.		
	United Kingdom.		Other British Possessions.		Foreign Countries.				
	Nomin- ated.	Selected.	Nomin- ated.	Selected.	Nomin- ated.	Selected.	Nomin- ated.	Selected.	Total.
1910	2,210	1,958	20	12	22	11	2,252	1,981	4,233
1911	4,675	2,524	4	3	60	32	4,739	2,559	7,298
1912	8,781	3,958	1	...	99	17	8,881	3,975	12,856
1913	10,997	2,482	3	...	150	17	11,150	2,499	13,649
1914	5,197	1,396	23	8	164	26	5,384	1,430	6,814
1915	1,298	369	8	...	14	7	1,320	376	1,696
1916	869	145	7	...	12	7	888	152	1,040

Assisted passages are granted to immigrants who are classified as selected or as nominated; the former include only farmers, agricultural labourers, and domestic servants. The selection of assisted immigrants is made mainly from the population of the United Kingdom; but a proportion may be drawn from Canada, South Africa, and other parts of the British Empire, also from other European countries, and the United States of America, provided they are eligible under the regulations of the Commonwealth Immigration Acts. Selected immigrants must be under 45 years of age, of good character, and in general must afford satisfactory evidence that they are likely to prove suitable settlers; they are brought to the State for minimum net fares of £6 for domestic servants and £8 for agriculturists, and assistance is given in respect of their wives and families. A committee, formed in London, has raised funds to assist young women, who become unemployed on account of the war, to emigrate to Australia. The Commonwealth Government has decided to assist financially to the extent of £3 per head, and the net fare to approved persons is £2 each, which is usually advanced by the Government upon an undertaking to repay.

Arrangements exist with various steamship companies for reductions in the ordinary rates for passages from the United Kingdom, Belgium, Italy, and other European countries. Besides these reductions a Government contribution, ranging from £4 to £8, is made towards the fares, these concessions being allowed to persons approved in London by the Superintendent of Immigration.

The following statement shows the distribution of selected immigrants in their respective occupational classes in each financial year:—

Year ended 30th June.	Rural Workers.			Domestic Servants.	Other.	Families of foregoing.
	Farmers.	Farm Labourers.	Total.			
1910	11	1,428	1,439	434	...	108
1911	12	1,831	1,843	387	...	329
1912	11	2,472	2,483	520	205	767
1913	10	1,662	1,672	349	3	275
1914	13	529	542	579	...	309
1915	1	14	15	508	...	53
1916	1	7	8	126	...	16

Since 1912 there has been a diminution in the immigration of selected agriculturists; as to domestic servants the numbers, though increasing prior to the outbreak of war, still appeared inadequate to meet the demand, and, as a further encouragement to this class of immigrant, the Government arranged to advance part of the fare to competent girls, the advance to be repaid in instalments after arrival. Arrangements have been made also whereby a person resident in New South Wales may prepay the cost of the passage for a domestic, who will repay the advance in instalments extending over a period of six months. A feature of the domestic section of immigration is the recent increase in the numbers persuaded to emigrate by their former friends, who are allowed to arrange positions for them, subject to the approval of the Immigration Bureau.

Persons nominated for assisted passage by relatives in the State may be granted a reduction of £4 on each full fare. In the case of wives and families nominated by persons resident in the State, a reduction of £6 is made, which may be increased to £8 per adult if the nominator is a farmer or farm labourer. Thus the lowest net fares to nominated accepted immigrants are £6 per adult for wives and families of farm workers, £8 for wives and families of other workers, £10 for all other nominees. All nominees must be under 45 years of age (except in the case of a wife, whose age must not exceed 50 years). Sound health and good character are essential. Children between the ages of 3 and 12 years at date of embarkation are carried at half rates, whilst one child, under 3 years, travelling with its parents, is carried free; any additional children under 3 years are charged quarter rates.

Until the year 1912 the nomination system was available for farm labourers, domestic servants, artisans, and manual workers, and in case of nominees, who were near relations of the nominators, for other occupations. In 1912, the nomination system was restricted to the wives and children of nominators, but persons eligible and nominated before this alteration in policy were exempted from the restriction. In 1913 the system was extended to include brothers and sisters, with their families, if of approved occupations. Nominators are required to lodge the reduced steamer fare, and to guarantee that employment awaits the nominees, or that adequate provision will be made for their maintenance.

When a person desires to nominate his wife and family and is unable to lodge the full amount required for the fare, a nomination may be accepted upon deposit of not less than 20 per cent. of the amount, provided the nominator satisfies the Immigration Bureau that he will pay the balance by instalments of not less than 10s. per week and obtain a guarantor.

Any immigrant who settles upon the land as owner, lessee, or labourer, within a reasonable time of his arrival, may be granted a remission of one-third of the railway fare for himself and family when travelling to the district in which he settles, and of one-third of the railway freight charged on household furniture, stock, and agricultural implements which were in his possession on arrival. These concessions may be granted also to nominated immigrants proceeding to the homes of their nominators, or travelling to take up farm work or domestic service.

Till 1912 intending immigrants from the United Kingdom were selected or approved after nomination per medium of the Agent-General's office in London, but in 1913 the Government established an Immigration Department in London, and the Superintendent thereof now makes all arrangements for assisted passages.

At the outset of hostilities in Europe it became the duty of the British oversea dominions to refrain from all inducements to persons of military

age to emigrate from the United Kingdom, and immigration to New South Wales has since been confined to domestic servants, amongst whom were a number of widows, with their children.

In the early part of 1913 the Attorney-General of New South Wales, being in London, was enabled to arrange for conjoint action with Victoria in regard to the regulation and supervision of immigration. For this purpose the Immigration Office in London of the State of Victoria was amalgamated with the New South Wales Office, as from 1st July, 1913. This action resulted practically from discussion at the Premiers' Conference of 1912 on immigration, particularly in relation to disparity of passage rates in force under the immigration policies of the different States.

Vessels carrying immigrants are met on arrival by officers of the Immigration Bureau, and in certain cases, where large numbers of immigrants are travelling from England, an officer joins the vessel at Melbourne. Suitable accommodation is available for all immigrants pending their entry into situations, and advice is given freely, but in the majority of cases assisted immigrants go to employment at once.

The question of providing a Government Depôt for the accommodation of immigrants was under the consideration of the Government during 1912. The provision of such a building was approved, but before a suitable site was secured accommodation was made available through the efforts of organisations, such as the Church of England Men's Society, and the Central Methodist Mission. The Government then arranged with the Church of England authorities to provide accommodation for 400 people at their Welcome Home.

In 1916 a suitable house was purchased as a reception and training home for immigrant domestics, but the restrictions placed by the Imperial Government upon the issue of passports prevented its advantageous use for that purpose.

TRADE UNIONS.

The Trade Union Act of 1881 defines a "Trade Union" as "any combination, whether temporary or permanent, for regulating the relations between workmen and employers, or between workmen and workmen, or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business, whether such combination would or would not, if this Act had not been passed, have been deemed to have been an unlawful combination by reason of some one or more of its purposes being in restraint of trade."

The Act provided simple machinery for the incorporation, free of cost, of Unions, and the practical advantages of registration quickly became evident to those interested in industrial organisation.

In regard to Trade Union contracts, the Act expressly stipulates that nothing contained in it shall enable any Court to entertain any legal proceeding instituted with the object of directly enforcing or recovering damages for breach of—

(1) Agreements—

- (a) between members of a Trade Union as such concerning the condition on which any members . . . shall or shall not sell their goods, transact business, employ or be employed.
- (b) for the payment by any person of any subscription or penalty to a Trade Union.

(c) for the application of funds of a Trade Union to—

- (i) provide benefits to members, or
- (ii) furnish contributions to any employer or workman not a member of such Trade Union, in consideration of such employer or workman acting in conformity with the rules or resolutions of such Trade Union, or
- (iii) discharge any fine imposed upon any person by sentence of a Court of Justice.

(d) made between one Trade Union and another.

(2) Bonds to secure the performance of any of the above-mentioned agreements.

This section does not, however, render unlawful any such agreements as are mentioned above, nor does any provision of the Act affect agreements—

- (i) between partners as to their own business;
- (ii) between employer and employee regarding such employment;
- (iii) in consideration of the sale of goodwill of a business or of instruction in any profession, trade, or handicraft.

The Industrial Arbitration Act, 1901, provided for the incorporation of trades unions as industrial unions: That Act expired on the 30th June, 1908, and was replaced by the Industrial Disputes Act, 1908, which also provided that trade unions might be registered thereunder, and continued the registration of industrial unions, which had been registered under the 1901 Act. Similarly the Industrial Arbitration Act, 1912, preserved existing registrations, and still restricted to the registered trade union the right of being the only applicant which may obtain registration as an industrial union of employees.

The outcome of these events is reflected in the records of registrations for individual years. The maximum number of registrations of Trade Unions in any year was 46 in 1902. The next highest numbers were 38 in 1890 and 35 in 1901, and the registrations in 1915, viz., 11, were the lowest since 1906.

Incorporation and Dissolution.

In the thirty-five years, 1882-1916, 508 Unions have been incorporated under the Trade Union Act. The numbers, for quinquennial periods, of new Unions registered and of such registrations since cancelled or still effective, as at December, 1916, are as follows:—

Period.	Trade Unions Registered.	Registrations of each Period.	
		Since Cancelled.	Still Effective.
1882-6	49	29	20
1887-91	92	76	16
1892-6	23	19	4
1897-1901	43	19	24
1902-6	96	70	26
1907-11	125	56	69
1912	26	12	14
1913	17	4	13
1914	13	6	7
1915	11	2	9
1916	13	...	13
Total to 31st Dec., 1916	} 508	293	215

The majority of unions are of comparatively recent formation, since 151 of those existent have been registered since the beginning of 1902. The number existent at the end of 1916 represents approximately 42 per cent. of the total unions formed under the Act. The average life of all extinct unions was about seven years.

Cancellations for the most part have been directly consequent upon non-compliance with the requirements of the law in regard to making returns as to the membership and funds, which default was usually attributable to the moribund condition of the union. In a few instances registrations were terminated by amalgamation of unions, or by their absorption in other bodies.

The progression of recent years is indicated in the following statement:—

Year.	New Unions Registered.	Number of these Unions defunct at 31st Dec., 1916.	Average Membership of Unions Reporting.
1907	13	9	693
1908	25	6	745
1909	27	16	767
1910	29	14	749
1911	31	11	804
1912	26	12	962
1913	17	4	1,019
1914	13	6	1,100
1915	11	2	1,053
1916	13	...	...

Aggregate Funds and Membership.

The following statement shows the position of all Trade Unions (i.e., for employers and employees) for the year 1915, as regards finances and membership:—

					1915.
Trade Unions (Employers and Employees)					
existent at end of year...					219
Total receipts	...	...	...	...	£267,060
Total expenditure	...	...	...	...	£257,297
Total funds	...	...	...	...	£205,020
Membership	...	...	...	...	230,603
Receipts per member	...	...	...	...	23s. 2d.
Expenditure per member	...	...	...	...	22s. 4d.
Amassed funds per member	...	...	...	...	17s. 9d.

The unions are classified in two groups according to their constitution, viz., of employers and of employees. The following table displays their relative positions as at 31st December, 1915:—

Trade Unions.	No. of Trade Unions.	Membership.				Funds.	
		Males.	Females	Total.	Per Union Reporting.	Aggregate.	Per Union Reporting.
Employers	13	2,753	166	2,919	208	£ 2,860.	£ 204
Employees	206	217,133	10,551	227,684	1,111	202,160	986
Total	219	219,886	10,717	230,603	1,053	205,020	936

The following statement gives a general view of the numerical strength of all trade unions during the last four years:—

Membership.			1912.	1913.	1914.	1915.
Less than...	...	100	49	48	47	43
100 and less than	...	500	77	85	79	73
500	„	1,000	23	22	27	25
1,000	„	1,500	15	11	9	10
1,500	„	2,000	11	15	13	11
2,000	„	3,000	8	7	11	14
3,000	„	4,000	4	5	7	9
4,000	„	5,000	3	4	3	1
5,000	„	8,000	5	4	6	9
8,000	„	10,000	...	2	1	...
10,000	„	20,000	2	2	2	2
20,000	„	25,000	1	1	1	...
Not stated	...	...	11	8	13	22
Total	...	...	209	214	219	219

EMPLOYERS' UNIONS.

Appended is a list of the employers' unions, showing receipts, expenditure, funds, and membership:—

Group.	Trade Unions at 31/12/15	Receipts.	Expenditure.	Funds.	Membership (Employers' Unions).		
					Males.	Females.	Total.
		£	£	£			
Licensed Victuallers ...	1	1,563	1,486	493	1,044	159	1,203
Carters ...	1	425	412	612	365	3	368
Builders, Contractors, and Tuckpointers...	3	1,677	1,473	1,331	243	...	243
Farriers ...	1	1,183	1,360	72	342	...	342
Butchers ...	1	504	528	171	145	...	145
Bakers ...	1	757	1,024	73	154	...	154
Tug and Lighter Owners	1	83	55	31	28	...	28
Laundrymen ...	1	85	66	111	77	...	77
Electrical Employers ...	1	255	235	20	36	...	36
Hairdressers ...	1	208	209	2	158	1	159
Dairymen ...	1	363	358	(-) 56	161	3	164
Total ...	13	7,103	7,206	2,860	2,753	166	2,919

EMPLOYEES' UNIONS.

Development.

As regards numbers, membership, and funds, trade unions of employees constitute by far the strongest group. Though numbers of the early unions formed in New South Wales were branches of British or foreign organisations, for the most part unions were of local origin and independent governance. But as the conception of unionism has undergone radical revision in recent years, so the constitution of unions has been subject to alteration in the direction of centralisation. Throughout the first decade of registration—in fact, practically till 1890—separate unions were constituted for the various branches of industries, also for male and female workers in those branches. Since 1900 there has been apparent a movement towards consolidation of allied interests, so that few local unions retain their absolute autonomy, and the sphere of influence of most unions has extended throughout the State, or even outside it. Practically all unions, whether local, State, or federated, are affiliated with Central Councils in Sydney, Newcastle, or Broken Hill. The movement towards consolidation received an impetus during 1912 from the rearrangement of Industrial Boards under the Industrial Arbitration Act, 1912, on the basis of craft unionism, thus making allied interests subject to the oversight of one chairman; this alteration was bound to increase the tendency towards concentration.

The receipts and expenditure during 1915, also the accumulated funds and the membership, as at December, 1915, for employees only, are shown in the following table:—

Industrial Classification.	Receipts.	Expenditure.	Funds.	Membership. (Employees' Unions).			Funds per member.
				Males.	Females.	Total.	
	£	£	£				s. d.
Pastoral, Agricultural, Farming	19,300	20,817	12,641	18,852	37	18,889	13 5
Mining, Quarrying, and Smelting	73,696	79,804	24,105	23,056	...	23,056	20 11
Building	20,441	16,593	29,301	20,973	17	20,990	27 11
Engineering and Metal Working	34,231	27,823	30,606	22,170	6	22,176	27 7
Printing, Bookbinding, &c.	6,335	4,925	12,577	3,430	853	4,283	58 9
Clothing, Boots, Hats	4,099	3,260	7,446	4,077	3,357	7,434	20 0
Food, Drink and Narcotics	13,332	14,023	11,038	18,113	1,898	20,011	11 0
Manufacturing, n.e.i.	13,367	10,565	20,729	13,459	1,964	15,423	26 10
Railways and Tramways	26,774	26,602	20,483	41,190	24	41,214	9 11
Other Land Transport	5,853	4,958	4,281	6,345	...	6,345	13 6
Shipping and Sea Transport	16,771	17,297	8,526	17,813	...	17,813	9 7
Labour Councils and Federations of Employees.	1,546	1,846	546	...	...	...	...
Eight-hour Committees	5,341	5,288	6,142	...	...	...	...
Miscellaneous	18,871	16,290	13,739	27,655	2,395	30,050	13 7
Total	259,957	250,091	202,160	217,133	10,551	227,684	17 9

The strongest unions financially are those connected with the printing and bookbinding trades. Next in order of importance, measured by accumulated funds per member, are the building and engineering groups.

Local unions are affiliated with the Labour Federations, which have their headquarters at Sydney, Newcastle, and Broken Hill—the three large industrial centres of New South Wales.

The numerical strength of employees' unions in 1915 is displayed in the following statement:—

Membership.				Em- ployees' Unions.	Membership.				Em- ployees' Unions.
Less than 100	...	...	...	43	4,000 to 5,000	...	...	...	1
100 to 500	...	...	...	73	5,000 „ 8,000	...	...	...	9
500 „ 1,000	...	...	...	25	8,000 „ 10,000	...	...	...	...
1,000 „ 1,500	...	...	...	10	10,000 „ 20,000	...	...	...	2
1,500 „ 2,000	...	...	...	11	Not stated	...	...	...	9
2,000 „ 3,000	...	...	...	14					
3,000 „ 4,000	...	...	...	9	Total	...	...	...	206

During recent years considerable progress has been made in the direction of closer unionism of subsidiary or allied industries; various conferences have been held with the object of promoting uniformity of trade conditions and of wages throughout Australia.

The following table shows the number of members of trade unions—employers and employees—engaged working in various groups of industry and the percentage of each sex to the total union members employed:—

Group.	Membership.			Percentage of Total.	
	Males.	Females.	Total.	Males.	Females.
Clothing...	4,077	3,357	7,434	1·77	1·46
Printing...	3,430	853	4,283	1·49	·37
Food and Drink...	18,113	1,898	20,011	7·85	·82
Manufacturing...	13,459	1,964	15,423	5·84	·85
Domestic...	4	31	35	·00	·01
Shops and Stores...	5,852	893	6,745	2·54	·39
Postal Employees...	45	85	130	·02	·04
Musicians, Theatrical Performers, &c.	1,089	329	1,418	·47	·14
Teachers...	416	96	512	·18	·04
Hospitals, &c.	600	330	930	·26	·14
Public Service...	2,567	91	2,658	1·11	·04
Miscellaneous Workers...	800	500	1,300	·35	·22
Other Groups...	169,434	290	169,724	73·47	·13
Total...	219,886	10,717	230,603	95·35	4·65

INDUSTRIAL LEGISLATION.

For many years subsequent to the establishment of Responsible Government in New South Wales in 1855, the majority of the population were engaged chiefly in pastoral or mining industries, in sparsely-settled districts. Local conditions did not induce industrial activity, with consequent legislation in that direction, but between 1871 and 1881 manufacturing came into prominence in the industrial life of the State; the increasing population displayed a tendency to settle in defined localities, and for some ten years, till 1892, legislative interest began to express itself in specific enactments for improved conditions in industry.

In this period world-wide interest was displayed in the question of protective legislation for the betterment of the great body of workers, and in New South Wales a new era of activity in legislation was marked by three enactments which were passed during the Parliamentary session of 1892, viz.:—Protection of Children Act; Diseased Animals and Meat Act; Trade Disputes and Conciliation Act.

These enactments formed the nucleus of a body of statute law which has been expanded by legislation, and is being amended constantly to give concrete form to new standards and ideals.

Historically, the earliest subjects to receive attention were such as related to industrial conditions and safeguards in trade. The sequence of treatment of individual trades placed shipping in the first rank, followed in order by retail trading, mining, agricultural, and pastoral industries. Health interests and matters relating to food and drink and bodily welfare received attention before subjects of general welfare and protection; while in regard to the helpless and extreme stages of life, youth received consideration as being proximate to the working years, before the extremes of infancy and old age, which were concerned more remotely with the industrial problems.

In 1901 the Commonwealth of Australia was empowered, under the Constitution Act, to make laws under stated conditions for the peace, order, and good government of the Commonwealth in a large number of matters.

With the transfer of these subject-matters to the Federal Parliament, an acceleration is noticeable in the attention given by the Parliament of the State to economic measures for the advancement of industrial efficiency and well-being. This is in part attributable to the expanding popularity of protective regulation by statute law, and partly to the additional opportunity afforded for attending to subjects of social reform.

COMMONWEALTH INDUSTRIAL ARBITRATION.

The legislation of the Commonwealth Parliament relating to arbitration is embodied in the Commonwealth Conciliation and Arbitration Act, 1904-15, and the Arbitration (Public Service) Act, 1911. These Acts are both mediatory and regulative. The former constitutes an Industrial authority which, in the matter of intervention in industrial disputes, has jurisdiction only when such disputes extend beyond the limits of a single State.

The main objects of the Commonwealth Arbitration and Conciliation Act are:—(a) To prevent lockouts and strikes in relation to industrial disputes; (b) to constitute a Commonwealth Court of Conciliation and Arbitration having jurisdiction for the prevention and settlement of industrial disputes; (c) to provide for the exercise of the jurisdiction of the Court by conciliation, with a view to amicable agreement between the parties; (d) in default of amicable agreement between the parties, to provide for the exercise of the jurisdiction of the Court by equitable award; (e) to enable States to refer industrial disputes to the Court, and to permit the working of the Court and of State industrial authorities in aid of each other; (f) to facilitate and encourage the organisation of representative bodies of employers and of employees, and the submission of industrial disputes to the Court by organisations, and to permit representative bodies of employers and of employees to be declared organisations for the purposes of this Act; (g) to provide for the making and enforcement of industrial agreements between employers and employees in relation to industrial disputes.

The Commonwealth Court of Conciliation and Arbitration consists of a President appointed from among the Justices of the High Court. The

President is charged with the duty of endeavouring to reconcile the parties to industrial disputes, and to prevent and settle industrial disputes in all cases in which it appears to him that his mediation is desirable in the public interest. In the discharge of these duties he may convene compulsory conferences under his own presidency.

The Court has jurisdiction to prevent and settle industrial disputes certified by the Registrar as proper to be dealt with by it in the public interest, or submitted by an organisation by plaint or by a State industrial authority, or referred by the President after a compulsory conference at which no agreement was reached. The Court endeavours to induce the settlement of disputes by amicable agreement, or, failing an agreement, determines the disputes by award. The awards are made for a specified period up to a maximum of five years, and after the expiration of the definite period they continue until a new award is made, unless the Court orders otherwise. A State law or an award or order of a State industrial authority becomes invalid if inconsistent with an award or order of the Commonwealth Court of Conciliation and Arbitration.

An award of the Court may not be challenged or questioned, but in any proceeding before the Court the President may state a case for the opinion of the High Court upon a question of law.

The extensive powers conferred upon the Court include the power to hear and determine disputes, to make orders or awards, to impose penalties for breach or non-observance of orders, &c., and to grant a minimum rate of wages and preference for members of organisations.

Registration applies to organisations of employers or of employees, representing at least 100 employees. Registered organisations are entitled to submit disputes to the Court, and to be represented before the Court in the hearing of disputes.

Any organisation may make an industrial agreement with any other organisation or with any person for the prevention of disputes by conciliation and arbitration.

The Arbitration (Public Service) Act, 1911, extends the provisions of the Commonwealth Conciliation and Arbitration Act to organisations of employees in the Public Service of the Commonwealth; an association of less than 100 employees in any industry in the Public Service may be registered as an organisation, if its membership comprises at least three-fifths of all employees in that industry in the Public Service of the Commonwealth. Registered organisations may submit to the Court by plaint any claim relating to salaries, wages, rates of pay, or terms or conditions of service or employment of members.

At 31st September, 1916, there were 25 Commonwealth awards and 368 industrial agreements in force, of which 22 awards and 122 agreements applied in New South Wales.

A claim for preference to unionists has been included in nearly every dispute dealt with by the Commonwealth Court, but it has been granted in only one instance, as it is the usual practice to refuse to order preference in the cases of respondents who undertake not to discriminate against members or officials of the associations.

STATE INTERVENTION IN INDUSTRY.

The year 1851 marks the starting-point in the history of industrial development in New South Wales. Till that time Australia seemed destined to rank as a purely pastoral country, distance from the world's markets and sparseness of population militating against progress in agriculture or other

forms of production. The period immediately preceding the discovery of payable gold deposits was marked by over-speculation in land, culminating in acute financial distress in 1842; and subsequently there occurred an appreciable fall in wages. During 1849, the labour market in Sydney, where the conditions prevailing throughout the country were duly reflected, was relieved of a proportion of its surplus labour by the commencement of emigration to California consequent upon gold discoveries there. In 1851, the discovery of gold in payable quantities in New South Wales occurred opportunely to relieve the still prevailing depression; and from 1851 to 1858 the attention of the population was directed chiefly to gold-seeking. The discoveries and developments of this period have been far-reaching in their economic effects upon standards of living, prices of commodities and of labour, expansion of industry, extension of means of communication, distribution of population, and particularly upon the direction of immigration. Between 1859 and 1862 a degree of stability in industry was evolved during a period of transition, characterised by decreasing gold-winnings, with a corresponding diminution in the earnings of working miners. Naturally, many gold-seekers were diverted to other pursuits. The Land Act of 1861 helped materially in the renewal of activity in agrarian pursuits; and the history of the last half-century is written in the fairly steady and consistent development of a varied industrial life.

A landmark in this half-century is the critical period which closed with financial distress in 1893. Considerable expenditure of public moneys and a vigorous policy of immigration in combination attracted population, and with the curtailment of expenditure on public works the experience of a congested labour market was repeated. The year 1885 witnessed the attainment of the highest point in a scale of wages, which had improved steadily for some fifteen years; and in 1886, coincidentally with the restriction in public and private business, came a fall in prices of commodities and a more or less general reduction in wage standards.

In the six years, 1886-1892, strikes and trade disputes were common occurrences, and thenceforward strikes appear more or less prominently in the industrial history of the State.

The more important of the early dislocations are remarkable for their spread and duration. In 1886-7 collieries in the southern district were idle for nearly twelve months as the result of disputes and strikes; in 1888 coal-miners in the northern mining district were on strike for several months; in 1888-9 the completion of various public works released some 12,000 men, mainly unskilled labourers, from the ranks of industry; in 1890 the maritime and the pastoral industries were in upheaval; and in 1892 silver mines at Broken Hill were idle for nearly three months in consequence of strikes. The year 1895 represents the turning-point. The wage rate, which may be taken as the industrial barometer, and which for ten years previously had been low and variable, evidenced a degree of stability, and since that date no extraordinary fluctuations have been apparent, but the wage standard has been improved consistently.

In 1890 the Census and Industrial Returns Act empowered the Government Statistician to report upon the conditions prevailing in the factories within the State; but in spite of an accumulation of evidence as to the urgent necessity for regulative supervision, legislative action was deferred till 1896, when the Factories and Shops Act was passed. In December, 1899, as corollary to the regulation of the manufacturing industry, regulation of shops, in regard to hours during which goods might be sold, was effected by the Early Closing Act.

Coincidentally with these efforts to regulate the conditions prevailing in manufacturing and retail establishments, attention was given to the problem of regulating the relations between employers and employees generally, so as to obviate dislocations of industry.

MEDIATORY LEGISLATION.

The effective history of mediatory legislation dates from 1890, when a Royal Commission of Inquiry was appointed, following on the maritime strike in that year, to investigate the causes of industrial disputes and to indicate means for their prevention. A result of this Commission was the Trades Disputes Conciliation and Arbitration Act, 1892. As the preamble of the Act declares, the establishment of Councils of Conciliation and of Arbitration for the settlement of disputes between employers and employees should conduce to the cultivation and maintenance of better relations, and of more active sympathy, between the parties, and be of great benefit in the public interest with its simple methods for the prevention of strikes and disputes.

The Act was intended to be operative for four years from 31st March, 1892; its initiation was facilitated by the progress of trade unionism, both in the way of organisation of trades and in its direct representation in Parliament.

As this Act did not compel either party to a dispute to submit its case to the Council of Arbitration and Conciliation, nor to abide by any award made in a case submitted, it proved ineffective. From the date of appointment of the two councils to the end of 1894 only two cases were taken, negotiations in other cases proving unsuccessful. The Parliamentary vote for administration lapsed on 31st December, 1894; and though the Act remained in force till 31st March, 1896, it was inoperative. During this period, however, the first regulative legislation in regard to factories and shops was passed, viz., the Factories and Shops Act, 1896.

The Conciliation and Arbitration Act, 1899, aimed at the prevention, as well as the settlement, of trade disputes; it authorised the Minister to direct inquiry into the causes and circumstances of differences, and to take steps to enable the parties to meet together under the presidency of a chairman mutually selected, with a view to an amicable settlement. In the event of failure, the Minister could direct a public inquiry into the causes of the difference, and on the application of either employers or employees, could appoint a board of conciliation. On the application of both parties an arbitrator could be appointed, but parties to a dispute were not compelled to submit their cases, and to remove the imperfections disclosed further legislation was enacted.

These initiatory enactments were aimed at the elimination of the strike as an instrument in the settlement of industrial disputes, and were based on the principle of voluntary conciliation as the most effective instrument in the adjustment of grievances.

INDUSTRIAL ARBITRATION ACT, 1901.

In the Industrial Arbitration Act, 1901, the most important innovations were the application of arbitration principles to the regulation of wages and working conditions generally, and the extension of the definition of industrial disputes, so as to include consideration of conditions prevailing in industries in which no dispute existed technically.

The Act provided for the registration and incorporation of industrial unions and for making and enforcing industrial agreements; constituted a Court of Arbitration for the hearing and determination of industrial disputes and matters referred to it; defined the jurisdiction, powers, and procedure of such Court, and provided for the enforcement of its awards and orders. In the year 1905 this Act was extended by the Industrial Arbitration (Temporary Court) Act.

If the Registrar or the Court was satisfied that compliance with the Act had been observed, there could be registered, as an industrial union, any person or association of persons, or any incorporated company or any association of incorporated companies, employing on a monthly average not less than fifty employees; and any trade union or association of trade unions.

An industrial union could make with another industrial union, or with an employer, an agreement relating to any industrial matter; the Court had jurisdiction to hear and determine, according to equity and good conscience, industrial disputes and industrial matters referred to it, and to make orders or awards accordingly. An industrial dispute was defined to be a dispute in relation to industrial matters arising between an employer, or industrial union of employers, and an industrial union of employees or a trade union, and included a dispute arising out of an industrial agreement.

This Act, in providing for the prevention of strikes and lock-outs, made it a misdemeanour for any person who, before a reasonable time had elapsed for a reference to the Court of the matter in dispute, or while any proceedings were pending in the Court in relation to an industrial dispute, did any act or thing in the nature of a lock-out or strike; or suspended or discontinued employment or work in any industry; or instigated to or aided in any of the abovementioned acts.

The jurisdiction of the Court of Arbitration extended to all industries except domestic service, and its award applied without limitation of area throughout the State.

On account of the large number of cases promptly cited before the Industrial Court, and the possibility of securing an injunction against the Court, there ensued a state of congestion ultimately culminating in considerable industrial unrest, when experience had proved the Act to be cumbered by technicalities, and in 1908 it was superseded.

INDUSTRIAL DISPUTES ACT, 1908.

Under the Act of 1908, a social ideal was definitely evolved that every normal individual is entitled to a reasonable standard of comfort consistent with the welfare of the community.

No dispute was necessary to bring an industrial matter within the jurisdiction, and provision was made for the constitution of Wages Boards to determine the conditions which should govern employment in specified industries. Boards could be constituted for industries or occupations or local sections of industries or for any division or combination of employees in industries as might be judged expedient by the Court. In practice, boards were constituted for industries, but employees were associated according to trades, to materials worked in, or to goods made, with the result that there were boards for trades, for business, and for industries or associations of trade—all with exemptions for certain classes of employees or employers.

All awards, orders, and directions of the Court of Arbitration, and all industrial agreements current and in force at the commencement of the Act, remained binding on the parties, and on the employers and employees concerned, for the period fixed by the Court, or by the award, or agreement, or where no period was fixed, for one year from 1st July, 1908. Any industrial agreement might be rescinded or varied in writing by the parties.

Provision was made for the registration of trade unions as industrial unions, and the expiration of the Industrial Arbitration Act, 1901, did not affect the incorporation of industrial unions registered under that Act, while any trade union registered under the Act might make a written agreement with an employer relating to any industrial matter.

The Industrial Court consisted of a judge, sitting with assessors, when necessary. A board could be constituted for an industry on application to the Industrial Court by an employer or employers of not less than twenty employees in the same industry; by a registered trade union having a membership of not less than twenty employees in the same industry; by an industrial union, or by twenty or more employees in an industry.

Each board consisted of a chairman and one or two employers and an equal number of employees.

The boards were authorised to decide all disputes, fix the lowest prices for piece-work, lowest rates of wages, hours, proportion of apprentices and improvers, and other industrial matters, and to rescind or vary any of its awards.

At any time within one month after publication of an award by a board, any trade or industrial union or any person bound by the award could apply to the Industrial Court for leave to appeal to such Court. The Court alone had power to rescind or vary any award or order made by it, or any award of a Board which had been amended by the Court, or any award of a Board which had been dissolved or was no longer in existence; but where public interests were endangered, the Crown might intervene in proceedings, and make any necessary representations; or, further, the Crown might at any time after the making of an award, apply for leave, and appeal to the Industrial Court.

Under the Amending Act of 1910 proceedings for the enforcement of awards and penalties were made referable to a Magistrate's Court, and in accordance with this proviso the Industrial Registrar's Court was constituted as a Court of Petty Sessions.

After some three years' experience adverse criticism was directed against this attempt at settlement of the industrial problem, the most serious objections being found in the multiplicity of boards and the danger of overlapping of awards in the absence of co-ordinating provisions; the Act was repealed in 1912.

Clerical Workers Act, 1910.

Complementary to the Industrial Disputes Act, 1908, and its amendments, the Clerical Workers Act, 1910, was passed to provide a tribunal to fix a minimum wage for persons engaged in clerical work, as difficulty was experienced in applying the machinery of the Industrial Disputes Act as to Wages Boards to work of this nature, which, moreover, was not an industry or calling under the Act.

The Clerical Workers Act provided that, on application to the Industrial Court by any employer of not less than ten clerks, or by not less than ten clerks in the same or similar employment, the Court

might fix the minimum wages and rates for overtime payable to clerks, and provide specially for aged, infirm, or slow workers; but no recognition was given to a trade or industrial union of clerical workers. In 1911, however, these workers were placed in a schedule under the Industrial Disputes Act, 1908, and an application was made for the constitution of a Wages Board. Before this case was decided, the Industrial Disputes Act was repealed, and as the clerical workers were not included in the schedule industries subject to the operation of the Industrial Arbitration Act, 1912, no further proceedings were taken.

In 1915 the Clerical Workers Act was repealed, and the industry of clerks, other than articulated, solicitors, or architects, was added to the schedule of the Industrial Arbitration Act, and subsequently the Clerks (Metropolitan) Board was constituted.

INDUSTRIAL ARBITRATION ACTS, 1912 AND 1916.

The principal points of the Industrial Arbitration Act, 1912, since amended by the Industrial Arbitration Amendment Act, 1916, relate to the operations of Industrial Boards, &c. The powers of the Court and of its subsidiary tribunals were not limited to the relationships of employment. The range of industries and callings was defined by schedule, and boards might be constituted for any industry or calling or for division or combination in such industry or calling. In practice, old boards were re-established so far as was consistent with the conditions of the Act. Thus a material distinction between the Wages Board system as operative under the Industrial Disputes Acts, 1908-1910, and the Industrial Boards, provided under the Industrial Arbitration Act, 1912, lay in the grouping of allied industries under one Chairman, and in the arrangement of such boards more upon the basis of craft or calling than of industry, the ultimate aim being the maintenance of some thirty-one subsidiary Arbitration Courts, each having power to deal with a group of allied industries, but subject to the general control of the Court of Industrial Arbitration, which in its supreme direction co-ordinate the work of the minor courts.

Experience showed, however, that this system failed in its object of mitigating the delay in hearing and determination or of preventing the overlapping of awards, and in 1916 the amending Act provided for the appointment of additional Judges to transfer and control the work done by the boards with a view to the gradual abolition of the board system. The schedules of the principal Act are repealed, and industrial boards may be constituted, on the recommendation of the Court, for any industry, or group of industries. The Court is empowered to codify into one award all awards affecting an employer or class of employers in an industry or group of industries or the members of an industrial union employed by the same employer or class of employers.

Provision is made in the Industrial Arbitration Act, 1912, for the registration of industrial unions of employers and employees, also for the cancellation of registration by request, or by determination of the Court. Unions of employees may make industrial agreements with employers, or with any other industrial union, such agreements to be filed and binding for a maximum period of five years.

In the constitution of the Court of Industrial Arbitration, as a superior Court and Court of Record, governed in procedure and decisions by the dictates of equity and good conscience, provision was made for the appointment of an additional Judge or of a deputy, and for the constitution of Industrial Boards, of two or four members equally representing employers

and employees, with a Chairman appointed by the Minister. The Court is empowered to recommend "such transposition, division, combination, re-arrangement, or regrouping of" scheduled industries as may be desirable, and where question arises as to the demarcation of callings, may constitute a special board to determine such question. Where public interests are likely to be affected, the Crown may intervene to safeguard the public interest in proceedings before a Board or the Court, or appeal from an award of a Board.

In the enforcement of awards and orders, any property of a union, whether in the hands of trustees or not, is available to answer any such order.

Appeal from the Registrar or an Industrial Magistrate lies to the Court, whose decision is final.

Penalties imposed may be recovered in courts of summary jurisdiction, and paid to the public revenue.

In the constitution of Boards, the demarcation of callings, and the designation of special boards, the guiding principle was the numerical limitation of awards and the prevention of overlapping, consistently with the preservation of established conditions and with the curtailment of administrative expenses. In regard to Government employees, section 26 of the 1912 Act specifies that "Employees employed by the Government of New South Wales or by any of its departments . . . shall be paid rates and prices not less than those paid to other employees not employed by the Government or its departments doing the same class of work under similar circumstances. But the fact that employment is permanent or that additional privileges are allowed in the service by the Government or its departments shall not of itself be regarded as a circumstance of dissimilarity. The Court or an Industrial Board shall not fix rates and prices for such first-mentioned employees lower than those fixed for such other employees."

A judgment of the Industrial Court, as recorded on 19th February, 1913, after the hearing of argument in regard to applicant Government employees—Microbiology Department attendants under the Domestic group—decided that direct employees of the Crown were excluded from the jurisdiction of boards. To obviate the difficulty thus created provision was made specifically for the inclusion in the Schedule of certain Government employees.

Industries which are in the nature of home industries were scheduled separately.

Where employers or employees in the industries or callings consist chiefly of women, members might be appointed who were not engaged in those industries or callings; otherwise for the most part representative board members were men intimately connected with the particular industry or calling.

Functions of Boards.

A Board may make an award,—

- (a) fixing the lowest prices for work done by employees, and the lowest rates of wages payable to employees, other than aged, infirm, or slow workers;
- (b) fixing the number of hours and the times to be worked in order to entitle employees to the wages so fixed;
- (c) fixing the lowest rates for overtime and holidays and other special work, including allowances as compensation for overtime, holidays, or other special work;

- (d) fixing the number or proportionate number of apprentices and improvers and the lowest prices and rates payable to them;
- (e) determining any industrial matter;
- (f) rescinding or varying any award made in respect of any of the industries or callings for which it has been constituted;
- (g) declaring that preference of employment shall be given to members of any industrial union of employees over other persons offering their labour at the same time, other things being equal: Provided that where any declaration giving such preference of employment has been made in favour of an industrial union of employees such declaration shall be cancelled by the Court of Arbitration if at any time such union, or any substantial number of its members, takes part in a strike or instigates or aids any other persons in a strike; and if any lesser number takes part in a strike, or instigates or aids any other persons in a strike, such court may suspend such declaration for such period as to it may seem just.

Where an institution, carried on wholly or partly for charitable purposes, provides for the food, clothing, lodging, or maintenance of any of its employees or of any of its inmates who are deemed to be employees, the board shall make due allowance in its award as to the wages of such persons. The board may exempt such institution from any terms of the award, where the food, clothing, lodging, and maintenance provided by the institution, together with the money paid by the institution to such employees or inmates as wages, are at least equal in value to the value of their labour.

Awards are binding for a maximum period of three years on all persons engaged in the industries or callings and within the locality covered. Appeal lies to the Court, but the pendency of an appeal does not suspend the operation of the award.

Proceedings before a board may be commenced by reference to the board by the Court or by the Minister; or by application to the board by employers or employees in the industries or callings for which the board has been constituted.

To induce agreement in case of an application or reference the board will inquire expeditiously and carefully into the matter, and may enter, for inspection, premises used in the industry, conduct its proceedings in public or in private, and in respect of witnesses may compel attendance and evidence as under section 174 of the Parliamentary Electorates and Elections Act, 1912. Advocates or agents appearing before the board must have been actually engaged in one of the industries or callings in respect of which proceedings are taken.

Operations of Industrial Boards.

From February 1902, to July, 1908, the Court of Industrial Arbitration made eighty-nine awards. From July, 1908, to April, 1912, 213 Wages Boards under the Industrial Disputes Acts, 1908-1910, issued 430 awards.

To the end of June, 1916, 492 Boards had been constituted under the Industrial Arbitration Act, 1912, which was operative from 18th April, 1912; of these 259 were dissolved, and 233 were in existence.

The number of awards of Boards for the year ended 30th June, 1916, was 151, and 135 variations were made; the variations and amendments of awards by the Court numbered 66; the number of awards in force at 30th June, 1916, was 243. Awards numbering 862, including 388 variations, were made by the Boards during the period 1912-16; and 174 variations were made by order of the Court of Industrial Arbitration.

Cost of Industrial Boards.

The cost of Industrial Boards during the four years ended June, 1916, is shown in the following summary:—

Year ended 30th June.	Boards at end of Year.	Cost of Industrial Boards.				Average Cost.	
		Fees.	Allowances.	Other.	Total.	Per Award.	Per Board.
1913	195	£ 11,116	£ 1,648	£ 889	£ 13,653	£ 115	£ 66
1914	211	11,922	1,655	878	14,455	59	67
1915	219	7,978	737	439	9,154	43	41
1916	233	12,204	937	1,069	14,210	50	59

INDUSTRIAL AGREEMENTS.

Trade Unions were empowered under the Industrial Arbitration Act, 1901, to make written agreements with employers in regard to any industrial matters, the practice of collective bargaining, which had been followed by well-organised unions for years, then first received statutory sanction. Agreements relating to any industrial matter could be made by an industrial union with another industrial union or with an employer, and when filed, were binding between the parties. Rescissions and variations of agreements also had to be made in writing and duly filed.

Between 1901 and 1903 twenty-eight industrial agreements were filed, of which eleven were subsequently extended as common rules of the industry concerned. The validity of this procedure being questioned, the High Court of Australia decided in December, 1904, that it was a condition precedent to the exercise of the power of the Court of Arbitration to declare a common rule, that there should be in existence an award, order, or direction made by that Court in pursuance of a bearing or determination upon a reference under the Act. In November, 1905, the Court of Arbitration declared, by judgment, that the Court had no power to make an award, unless a dispute had been initiated and referred to the Court for determination. Thus an agreement was not convertible into an award for the purpose of making it a basis for a common rule. Under the Industrial Disputes Act, 1908, the power of the industrial union of employees to make an agreement was continued. Each agreement was binding on the parties, and on every person while remaining a member of the contracting trade union or branch. Under the Industrial Arbitration Act, 1912, the agreement may be enforced in the same manner as an award; its maximum duration is fixed at five years, as against three years under the previous enactments. Otherwise, conditions relating to agreements were not altered materially.

Following is a statement of the number of agreements filed in each year since 1902:—

Year.	Agreements Filed.	Year.	Agreements Filed.	Year.	Agreements Filed.
1902	} 28	1907	11	1912	44
1903		1908	12	1913	36
1904		1909	28	1914	50
1905		1910	21	1915	33
1906	13	1911	27	1916	51

In January, 1916, eighty-six agreements were in force, to which twenty-seven unions had been contracting parties.

ENFORCEMENT OF AWARDS AND INDUSTRIAL AGREEMENTS.

Proceedings before the Court of Industrial Arbitration for the enforcement of awards, and recovery of penalties, included the following:—

Year.	Orders for Recovery of moneys due under Awards.	Convictions for—		
		Lock-outs.	Strikes.	Unlawful dismissal.
1909	8	2	5	3
1910	20	2	5	1
1911	12	...	132	...
1912	4	...	108	...
1913	3	...	362	...
1914	...	...	407	...
1915	...	...	628	1
1916	...	...	48	...

Since 1901, breaches of awards and industrial agreements have constituted grounds for prosecution of offences in the Arbitration and lower Courts of the State, the penalties recoverable being subject to some limitations.

The following statement shows the cases under the Industrial Arbitration Act, 1912, heard by the Industrial Magistrates during the two years ended 30th June, 1916:—

Classification.	1914-15.		1915-16.	
	Cases.	Con-victions.	Cases.	Con-victions.
Non-payment of wages awarded ...	137	40	97	33
Non-payment of fines and subscrip-tions to union ...	312	157	321	140
Breach of award or industrial agree-ment ...	1,168	955	1,033	851
Failure to keep time-sheets and pay-sheets of employees ...	725	690	484	457
Failure to exhibit copy of award ...	587	29	441	387
Obstructing inspector ...	9	6	6	6
Failure to give notice of change affecting employment ...	9	6	7	3

Particulars regarding judicial proceedings under the Industrial Arbitration Act have been shown in the chapter relating to Law Courts.

INVESTIGATION AND INSPECTION.

Industrial Intervention and Inspection.

In May, 1911, while the Industrial Disputes Act, 1908, and its amend-ments, were still operative, an Investigation Officer was appointed, whose chief function was to receive and record complaints as to breaches of awards and as to failures to comply with obligations imposed under the Act, to review the reports of inspectors, and to direct prosecutions consequent thereon. In October, 1911, an active policy of conciliatory intervention between industrial disputants was undertaken, and concurrently with the procedure for the enforcement of awards, &c., the Investigating Officer was engaged in mediatory services wherever disputes or dislocations were known to be pending.

Statutory authority was given to this process of intervention with the commencement of the Industrial Arbitration Act, 1912, and the Investiga-

tion Officer was appointed a Special Commissioner on 1st July, 1912; but the range of his work has been limited since March, 1914, on account of a judgment delivered in the Industrial Court to the effect that parties to a dispute cannot be compelled to meet in conference when a strike or lockout has actually occurred.

During the year ended 30th June, 1916, 2,986 complaints as to breaches of awards, &c., were received at the Investigation Office; 1,717 prosecutions were initiated; and 1,536 convictions were recorded. The penalties in fines amounted to £1,707.

Factory Inspection.

The provisions of the Factories and Shops Acts are applicable only in localities specifically proclaimed as factory districts. On 1st July, 1915, these provisions were applied to the whole of the State, and earlier proclamations relating to the six factory districts were revoked.

Inspectors under the Factories Act, the Early Closing Act, and the Industrial Arbitration Act are under the control of the Department of Labour and Industry. The total number of inspectors is 32, of whom 7 are women; inspectors can be called upon to deal with complaints relating to any phase of industrial legislation. A legal officer is attached to the administrative staff for the purpose of advising and assisting the administrative officer in control of the inspectors.

PREFERENCE TO UNIONISTS.

In the majority of awards made by boards, a clause has been inserted granting, unconditionally, preference to unionists, all other things being equal. In occasional cases preference has been made subject to restrictions providing that the existing employment of non-unionists should not be prejudiced, and that preference should not be extended to women.

Awards granting preference are far more numerous than those in which restricted preferences are given.

Apparently there has been no general rule governing the decisions of boards in this matter, for where there are several awards relating to various branches in an industry, it will be found usually that in one or two branches the preference is unconditional, while in other branches there is no preference whatever in favour of unionists.

In a few cases the preference clause is in the nature of a prohibition of discrimination against unionists.

WAGES.

From 1880 to 1887, wages were high; between 1887 and 1891 there was little variation in the nominal rate of wages in skilled trades, though for unskilled labour the rates experienced a decided decline. In 1893 there was a heavy fall generally; and wages, as compared with the previous year, dropped 10 per cent. for mechanics, and still more for unskilled labourers. The second half of that year marked the beginning of a new industrial period, under vastly changed conditions; during 1894 employment became further restricted, and through 1895 the decline continued, the wage-rate of that year for skilled workmen being 22 per cent., and for unskilled labourers about 17½ per cent., below the rates of 1892. During 1896 wages in several trades improved, and subsequently steady advances and regular employment have been the rule. In 1898, 1899, and 1900, employment in the building trades was plentiful, and wages generally recovered, rising to the level of 1889.

After the inauguration of the Commonwealth of Australia in 1901 there was a decided impetus in developmental work, thus leading to increased

production. At the close of the same year an Industrial Arbitration Act was passed by the State Parliament; and the operation of this Act, with the succeeding legislation in the direction of adjustment of wages and conditions of work, has assisted materially to improve the status of the workers.

Since 1908 the number of trades in which wages are regulated by awards has extended so rapidly that but few occupations remain without the jurisdiction of industrial tribunals. The principle permeating the awards of boards, &c., is the stipulation of an adequate living wage; and the minimum male adult wage ranges between 8s. and 9s. per day for any class of labour. The question of the cost of living enters into the determination of a living wage, and judgments and awards tend more and more to embody all the factors determining effective wages, rather than to compromise between the standards of employer and employee. Early in 1914, as a result of an inquiry into the cost of living, the living wage for adult males was assessed in the Court of Industrial Arbitration by his Honor Judge Heydon at 48s. per week; in a further pronouncement in December, 1915, the Court expressed the view that the wage of ordinary labourers should be 52s. 6d. per week, and on 18th August, 1916, the minimum was raised further to 55s. 6d. per week.

Details as to average wages paid are shown in part "Manufactories and Works" of the Statistical Register.

Wages in the Principal Industries.

Adhering to the general classification of the principal industries as (a) rural, viz., agriculture, dairying and pastoral, (b) mining, (c) manufacturing, a comparison of wages paid in typical branches of such industries at intervals since 1895 has been given in previous issues of this Year Book, and should be consulted. Space does not permit of information being now presented in detail, and only rates of wages paid in a few of the trades and callings in each industry are quoted below for the year 1916.

Rural Industry.—Per week with board and lodging—Boundary-riders, £1 to £1 5s.; bullock-drivers, £1 5s. to £1 15s.; bush carpenters, £1 10s. to £1 15s.; station cooks, farm labourers, horse team drivers, milkers, each £1 5s. to £1 10s.; orchard hands, £1 to £1 10s.; harvest hands, per day, 7s. to 12s.; stockmen, £52 to £65; vigneron, £52 to £55; a rate of £1 4s., without rations, was paid to shearers per 100 sheep shorn.

Mining.—Coal miners received 2s. 2½d. to 4s. 2d. per ton and labourers 8s. to 9s. per day. Metal miners received 12s., and labourers 10s. 6d. per day.

Manufacturing Industry.—Per week—Bakers, £3 7s. 6d. to £4 10s.; blacksmiths, £2 12s. 6d. to £4; hairdressers, £2 15s. to £3 5s.; journeymen tailors, £3 to £3 5s.; tailoresses, £1 3s. to £1 15s.; upholsterers, £3 7s. to £3 13s. Per hour—Boilermakers, 1s. 4½d. to 1s. 6d.; bootmakers, 1s. 4½d.; bricklayers, 1s. 7½d. to 2s.; carpenters and joiners, 1s. 8d.; coopers, 1s. 4½d. to 1s. 6½d.; engine-drivers, 1s. 0½d. to 1s. 9½d.; ironworkers, 1s. 1½d. to 1s. 6½d.; general labourers, 1s. to 1s. 9d.; painters, 1s. 4d. to 1s. 9½d.; plumbers, 1s. 6d. to 1s. 10½d.; wheelwrights, 1s. 3d.

Figures relating to various branches of domestic service are given for the year 1916 as follows:—*Hotel, Club, Restaurant, &c.*—Per week with board—Cooks (men), £1 15s. to £5, (women) £1 to £3; waiters, £1 7s. 6d. to £2 5s.; waitresses, 11s. to £1 4s.; barmen, £2 1s.; barmaids, £1 5s.; storemen, £1 7s. 6d. to £2 10s. *Domestic*—Cooks (women), £1 to £1 15s.; cooks and laundresses, £1 to £1 5s.; housemaids, 15s. to £1; general servants, 8s. to £1 5s.;

nursemaids, 10s. to 15s.; gardeners, grooms, and coachmen, each £1 5s. to £1 10s. In connection with domestic service, the question of a rising wage is a question primarily of supply and demand for such labour, which has not hitherto been subject to regulation by award.

Regulation.

Fixation of wages by specific legislation is confined practically to the clauses of the Factories and Shops Act, 1912, embodying the Minimum Wage Act, 1908, as noted hereunder. The Truck Act, 1900, regulates contracts made with respect to, and the payment of wages, so as to prohibit such payments being made in goods or otherwise than in money. The service of legal process also is subject to the conditions of this Act.

Minimum Wage.

The Minimum Wage Act, 1908, which was consolidated with the Factories and Shops Act, 1912, provided for the whole State that the minimum wage should be not less than 4s. per week in respect of any person employed in preparing or manufacturing any article for trade or sale, or in any factory under the Factories and Shops Act, or working at any handicraft; or any shop-assistant as defined by the Early Closing Act.

The provisions do not apply where all persons employed as workmen and shop-assistants are members of the employer's family, related in the first or second degree by blood or first degree by marriage to the employer.

Aged, Infirm, and Slow Workers.

Under the Industrial Arbitration Act, 1912, the Registrar alone has power to determine when and how variations from award rates of wages shall be permitted.

For the year 1916, 716 applications were granted for permits to pay less than award rates to aged, infirm, and slow workers, and 69 were refused. The number of permits in force at the end of the year was 546.

HOURS OF WORK.

In 1855, after a strike, the principle of an eight-hour working day for operative masons was established. In the fifteen years following, the spread of the movement was not great, but in 1871 the Eight-hour Day celebration (since held annually) was inaugurated by the four classes then working the eight-hour day, viz., stonemasons, brickmakers, carpenters, and general labourers; subsequently a forty-eight hour week became the standard of custom for the majority of trades. In practice the eight-hour principle is applied in five working days of eight and three-quarter hours each and four and a quarter hours on Saturday. Under the Factories and Shops Act, 1912, the maximum working week for women and juveniles is forty-eight hours, with a maximum period of five hours' continuous labour and an overtime limitation of three hours per day.

Eight Hours Act, 1916.

This Act, which is construed with the Industrial Arbitration Act, 1912, regulates the hours of work and the payment of overtime, and must be observed by the Court of Industrial Arbitration, by the Industrial Boards in making awards, and by parties in making industrial agreements. The working hours are limited as follows:—

Mining Industries—workmen underground—Coal: Fireman, examiner, &c., 96 hours in 14 days; men engaged in handling and transit of coal, 48 hours in 6 days; others, 8 hours during 24. Metalliferous: 8 hours during 24 hours, or 88 hours in 14 days. In underground occupations a shift may not exceed 6 hours if, during 4 hours, the temperature is above 81 degrees Fahrenheit.

Other Industries.—(1) 8 hours per day on 6 days, (2) 48 hours per week, or (3) 96 hours in 14 days—as determined by agreement or award.

Overtime in excess of the above must be paid at prescribed rates, or it may be prohibited or restricted in any industry by the Court of Industrial Arbitration. The number of days or hours to be worked may be increased by award if the Court or Board consider that in the public interest an increase should be allowed. Subject to this provision the ordinary time of work in any industry or calling as fixed by agreement, award, or well-established practice, at the commencement of the Act, may not be exceeded in any future award or agreement.

The majority of industrial awards have declared 48 hours as a normal working week, but there are cases in which a shorter working week has been prescribed. The shortest week fixed is 36 hours; this applies to rock-choppers and sewer-miners, and to employees engaged on night-duty for the Metropolitan Board of Water Supply and Sewerage, and for the Sydney Municipal Council.

In several awards relating to transport services the hours are limited by fortnightly computation to ninety-six, but subject to a provision that such hours are to be worked, as far as practicable, in twelve shifts of eight hours each.

Of the trades working more than forty-eight hours per week, the most prominent are those connected with transport services and food supplies.

Early Closing of Shops.

Under a voluntary system, of early closing of shops in the city of Sydney and in adjacent suburbs, the working hours of many employees were reasonable. Infringement of agreements in regard to this voluntary system caused considerable dissatisfaction, and the Early Closing Act was passed, to operate from 1st January, 1900. It was applicable to the Metropolitan and Newcastle districts and to all municipalities, while its operation might be extended to unincorporated areas. The Act provided that in Metropolitan and Newcastle districts each shopkeeper should be given the option of closing his shop at 1 o'clock on either Wednesday or Saturday of each week, and where this option was not taken Wednesday was deemed to be the day chosen. During 1900, 566 shopkeepers, chiefly importers and warehousemen, notified Saturday as their early-closing day.

Universal Half-holiday.

In 1905 a movement in favour of a universal half-holiday was initiated; and in 1909 a Royal Commission of Inquiry was appointed to investigate the desirableness of amending the Early Closing Acts so as to provide for a universal half-holiday in the Metropolitan and Newcastle districts; but in September, 1909, the Commission reported adversely. In August, 1910, the Saturday Half Holiday Act was passed.

Shops are permitted to remain open till 10 p.m. on Friday, 6 p.m. on other week nights, and 1 p.m. on Saturday.

Many factories complete the full week's work within five days, so leaving the Saturday a full holiday.

APPRENTICESHIP.

Under the Apprentices Act of 1901, any person resident and trading in New South Wales may take apprentices under certain conditions regulating the apprenticeship, e.g., as to age limitation and probation before completion of indentures. The Act limits the working time of apprentices to forty-eight hours per week, with saving clauses as to rural industries and domestic service. The minimum age of apprentices is 14 years, and limitations upon the proportion of apprentices to adults are fixed in

many cases in awards of industrial boards. In the majority of awards the proportion of apprentices or improvers to adult workers is one to three, with a maximum, as in the printing trades, of seven apprentices in any institution or business. Information is not available as to the total number of persons now serving in this State under indentures of apprenticeship (which are three-party contracts binding the employer, the employee, and his guardian); nor as to the extent of instruction imparted, and premiums usually paid.

An amendment of the Apprentices Act was made in 1915 to protect the interests of apprentices enlisting for active naval or military service.

An important contributory factor in the decline of apprenticeship in New South Wales is the facility with which highly remunerative wages may be obtained in unskilled trades.

In reference to apprentices it is worthy of note that during the year 1916 the Commonwealth Naval Department, the State Railways Commissioners, and the Sydney Municipal Council decided to send their apprentices to the Technical College to receive part of their supplementary trade education in the daytime.

As the apprenticeship and training of boys beyond the primary school course is a social and educational problem, and not merely economic and industrial, it has been proposed that the full control of apprenticeship should be placed in the hands of a specially constituted Industrial Training Commission. The matter is now receiving the attention of employers and others interested.

OUTWORKERS.

Under section 16 of the Factories and Shops Act, 1912, occupiers of factories are required to keep, and to supply to the factory inspectors, full records regarding outworkers employed. Permission to engage outdoor workers is required by certain awards.

SHEARERS' ACCOMMODATION.

The Shearers' Accommodation Act, 1901, was intended to become operative on 1st January, 1902, but in view of the fact that the State was then experiencing a drought, the provisions of the Act were suspended temporarily. The Act applies only to shearing sheds where at least six shearers are employed and is administered in conjunction with the inspectorial work under the Factories and Shops Act, &c. During the year ended 31st March, 1917, 1,458 stations were visited, 1,940 huts inspected, of which 1,838 were regarded as satisfactory; the new huts built numbered 25.

Seasonal Slackness.

Certain industries, particularly manufacturing, in the city and suburbs suffer to a certain extent from seasonal slackness in the summer-time, but such slackness is the necessary corollary to high-pressure work and overtime, which usually prevail in the weeks before the Christmas season. In the clothing trades, manufacturers for retail shops have to face the difficulty of rush orders, it being the practice of such shops to allow their stocks to run out entirely before placing fresh orders.

Intermittency.

The question of continuity of employment affects particularly the building trades, and in a less degree seasonal occupations.

As regards the building trades, the reserves of workers cannot, under normally favourable conditions, be great; but, on the other hand, no system of organisation yet devised can adjust the volume of work to the waiting labour so as to ensure absolute continuity of employment while obviating delay in the fulfilment of contracts.

INDUSTRIAL DISLOCATIONS.

The Industrial Disputes Amendment Act, 1909, provided for a penalty of twelve months' imprisonment for any attempt to instigate or aid in anything in the nature of a strike or lock-out or discontinuance of work in any industry.

The Industrial Arbitration Act, 1912, repealing previous Acts, aimed at obviating strikes and lock-outs. The inefficiency of penal proceedings for all cases is postulated, and the characterisation of a strike or lock-out as criminal gives way to its characterisation as an extravagant expedient, liable to penalisation extending to a charge on any moneys then or thereafter due to the person ordered to pay such penalty. The Court also may grant a writ of injunction to restrain any person from continuing to instigate or to aid in a lock-out or strike, the maximum penalty being imprisonment for six months.

The following statement shows, as far as can be ascertained, the number of workers involved, and the time lost by industrial dislocations, since July, 1907. Figures relating to 198 dislocations during the period 1907-13 have been excluded, as complete data were not available:—

Year.	Dislocations.			Workers Involved.			Working Days Lost.		
	Mining.	Non-mining.	Total.	Mining.	Non-mining.	Total.	Mining.	Non-mining.	Total.
1907*	30	11	41	21,645	496	22,141	204,966	712	205,678
1908	130	51	181	30,243	13,550	43,793	130,746	106,683	237,429
1909	85	43	128	35,956	6,667	42,623	1,969,920	47,047	2,016,967
1910	39	42	81	7,032	7,204	14,236	61,508	39,262	100,770
1911	41	30	71	10,831	9,479	20,310	246,875	110,346	357,221
1912	75	35	110	27,389	3,775	31,164	67,869	28,100	95,969
1913	91	69	160	28,848	13,378	42,226	237,577	129,196	366,773
1914	220	93	313	56,372	18,884	75,256	732,295	179,478	911,773
1915	225	89	314	66,211	28,135	94,346	569,708	162,386	732,094
1916	209	135	344	129,920	27,182	157,102	649,292	246,046	895,338

* July-December.

Duration of Dislocations.

Appended is a table distinguishing between mining and non-mining, and showing the dislocations lasting one day or less, and over one day:—

Year.	Industries and Duration.								
	Mining.			Non-Mining.			Total.		
	One Day or less.	Over one Day.	Not stated.	One Day or less.	Over one Day.	Not stated.	One Day or less.	Over one Day.	Not stated.
1907*	14	16	4	8	5	11	22	21	15
1908	62	66	12	30	30	23	92	96	35
1909	23	62	6	21	24	15	44	86	21
1910	17	23	9	35	14	38	52	37	47
1911	12	30	10	17	19	18	29	49	28
1912	48	28	4	16	26	5	64	54	9
1913	54	37	2	25	46	5	79	83	7
1914	125	95	...	31	62	...	156	157	...
1915	137	88	...	35	54	...	172	142	...
1916	121	88	...	43	92	...	164	180	...

* July-December.

The number of workers affected by dislocations lasting one day or less during 1916 was 86,953, and the loss of working days 85,250. Thus these brief dislocations accounted for approximately 48 per cent. of the total number, 55 per cent. of the workers involved, and 10 per cent. of the working days lost.

More complete information is given in the following table regarding the duration of the dislocations in 1916, including particulars of five which originated prior to 1916 and caused a loss of 261,887 days to 5,144 workers during the year:—

Duration in Days.	Dislocations.	Workers involved.	Working days lost.
Under 1 day	24	2,642	939
One day	140	84,311	84,311
Over 1 and not exceeding 7 ...	118	42,311	124,936
" 7 " " " 14 ...	31*	10,976	209,313
" 14 " " " 21 ...	12	4,220	68,039
" 21 " " " 28 ...	6	14,561	374,098
" 28 " " " 35 ...	3*	436	13,556
" 35 " " " 42 ...	2	195	7,009
" 42 " " " 49 ...	2	144	6,712
" 49 " " " 56 ...	2	285	15,535
62 days	1	100	6,250
65 " " " " ...	1	250	16,250
72 " " " " ...	2	122	8,784
96 " " " " ...	1	170	16,320
103 " " " " ...	1†	1,093	88,534
114 " " " " ...	1	17	1,933
277 " " " " ...	2†	413	114,701
Total	349	162,246	1,157,225

* Includes one pending at 31st December.

† Pending at 31st December.

Causes of Dislocations.

An analysis of the causes, as set down by the participants, reveals that the majority of dislocations during 1916 were the result of disagreement as to wages. The following statement shows the causes, the workers affected, and the time lost:—

Cause.	Mining.			Non-Mining.			All Industries.		
	Disloca- tions.	Workers in- volved.	Work- ing days lost.	Disloca- tions.	Workers in- volved.	Work- ing days lost.	Disloca- tions.	Workers in- volved.	Work- ing days lost.
Wages	69	28,259	107,619	67	13,879	186,457	136	42,138	294,076
Hours	28	43,527	432,339	3	159	1,493	31	43,686	433,792
Employment of persons or classes of persons.	32	7,802	28,119	32	3,663	22,666	64	11,465	50,785
Trade unionism ..	3	600	2,200	6	265	19,224	9	865	21,424
Working conditions ..	50	12,726	31,382	17	1,187	8,628	67	13,913	40,010
Sympathy	2	3,404	3,404	5	346	443	7	3,750	3,847
Miscellaneous	25	33,602	44,269	5	7,683	7,135	30	41,285	51,404
Total	209	129,920	649,292	135	27,182	246,046	344	157,102	895,938

Settlement of Dislocations.

If the settlement of the 344 dislocations during 1916 be classified it may be said that 293 were brought to a conclusion by the defeat of one of the parties or by the arrangement, without intervention, of a truce between them; 39 were settled by Arbitration and 12 by other methods.

Results of Settlements.

Of the 344 recorded dislocations in 1916, 152, or 44 per cent., resulted in resumption of work with modified conditions, more or less in accordance with the workers' claims. In 156, or 45 per cent., no modifications were granted, while the results of the remaining 36 cases were not recorded.

The following statement shows, as far as can be ascertained, the workers involved and the time lost classified according to the results of the dislocations; complete information was not available in respect of a number of dislocations which occurred during the years 1907-13. In 1916, 63 per cent. of the workers involved, and 27 per cent. of the time lost, was in respect of dislocations in which no modifications were granted:—

Year.	Modification.			No Modification.		
	Disloca- tions.	Workers involved.	Working days lost.	Disloca- tions.	Workers involved.	Working days lost.
1907*	17	15,327	190,741	10	2,198	5,279
1908	104	27,703	194,778	40	8,566	23,317
1909	69	29,685	1,651,926	25	2,507	7,998
1910	38	9,696	96,250	26	2,793	5,043
1911	51	14,408	183,382	10	4,160	170,282
1912	65	16,092	69,012	28	9,297	18,359
1913	102	31,668	329,581	39	7,429	32,269
1914	120	23,822	286,308	153	40,205	613,465
1915	171	51,063	306,188	136	42,355	162,441
1916	152	49,703	621,017	156	99,050	244,234

* July-December.

UNEMPLOYMENT.

At the census in April, 1911, the unemployed in New South Wales numbered 16,210 males and 2,700 females, and the percentage of unemployed to total breadwinners was 2.76 for males and 2.00 for females.

Since 1910 efforts have been made to obtain information from the trade unions as to unemployment amongst members; the results have not been satisfactory, as a large number of unions do not supply the information, mainly owing to lack of records. Information regarding unemployment has not been summarised for the year 1915, as it would be impossible to draw accurate conclusions on account of the abnormal conditions arising from the war.

RELIEF OF UNEMPLOYMENT.

Labour Exchanges, &c.

The question of relief of unemployment first received practical political attention in 1885, when, following upon a period of severe pastoral, commercial, and industrial depression, a Casual Labour Board was instituted. Between that date and 1890 extensive relief works were undertaken till a normal condition of the labour market was attained. Subsequently unemployment again became prevalent, and in place of the Casual Labour Board, a Government Labour Bureau was constituted in February, 1892.

An Act was passed in 1893 to establish labour settlements on Crown lands; three were established, viz., Pitt Town, Wilberforce, and Bega. The last-mentioned two are still in existence, and particulars of their operations are shown in the chapter relating to Agriculture. The Pitt Town settlement was not successful, and in 1898 a casual labour farm was opened on the site.

Government expenditure for the relief of the unemployed reached a maximum in the year ended February, 1896, when 14,062 men were registered at the Labour Bureau. At this period a system of using surplus labour to improve rural lands was initiated.

In 1899 a Board of four commissioners was constituted to deal with the question of unemployment, and in the following year the Labour Bureau and the Pitt Town farm were placed under their control. In the year ended June, 1901, a Labour Dépôt was opened at Randwick as a relief station for destitute men, and work was provided on road and railway construction, water conservation works, and land clearing.

In consequence of drought, many industrial trades suffered severely in 1902-3, but public works were instituted for the purpose of relief; and, owing to better organisation, the number of persons who sought the assistance of the Labour Bureau was remarkably small.

The Labour Commission was terminated in 1905 and a Director of Labour was appointed; since the institution of a Department of Labour and Industry, Government measures for the relief of unemployment are conducted by a branch of the Department.

In 1914 drought severely affected the pastoral and wheat-growing areas of the State, and a general dislocation of trade and industry supervened upon the outbreak of war. Special measures were taken to mitigate the effects of unemployment; in some industries, notably in railway construction and other public works the working hours were reduced in order to give employment to a larger number of persons, and clearing operations and wheat cultivation were commenced on a large area acquired for this purpose at Woodlands; the diversion of employees to military and naval forces and the increased activity in industries connected with war services also afforded a large measure of relief.

In addition to the State Labour Branch and the Women's Employment Agency, a self-registration system was introduced, by which persons seeking employment were enabled to register at the Department of Labour and Industry by transmitting post-free letter-cards; and subsequently post-free cards were provided also for the use of employers requiring workers; additional offices for the transactions of labour agency work were established, viz., at Newcastle in September, 1914; at Broken Hill in October; at Woonona in January, 1915; and at Orange in February. At these exchanges persons wanting work may register their requirements, capabilities, and characters; and employers may state what class of labour they desire. Constant endeavour is made to suit the one to the other, and employees are assisted to reach their employment. All these operations are conducted at the cost of the State, no fees being charged to employers nor to employees. Railway and steamer fares are issued on credit, terms for repayments being arranged according to circumstances.

The Women's Employment Agency was opened in Sydney in May, 1914; a former office for the registration of women workers was closed in January, 1906, after an existence of nearly four years. The operations of the employment agencies during the last five years are shown below:—

Year ended 30th June.	Registrations.			Persons sent to Employment.		
	Men.	Women.	Total.	Men.	Women.	Total.
1912	2,696	...	2,696	3,345	...	3,345
1913	3,021	...	3,021	3,165	...	3,165
1914	8,750	574	9,324	7,382	32	7,414
1915	11,977	3,583	15,560	8,808	1,979	10,787
1916	12,731	4,771	17,502	8,742	2,767	11,509

Training and Relief.

From 1910 to 1915 the Pitt Town Farm was maintained primarily as an agricultural training farm for city and oversea youths, but owing to the difficulty in obtaining students, since the outbreak of war, arrangements were made to accommodate women for training in farm work. Particulars relating to the operations of the farm are given in the chapter of this Year Book relating to Agriculture.

At the Randwick Labour Dépôt, where a pig, poultry, vegetable, and flower farm, and a State dairy have been established, destitute men unable to maintain themselves are given lodging, food, and a small money allowance in exchange for labour. Competent tradesmen, if employed at their trade, are paid extra. The period of residence must not exceed three months, nor recommence without a similar interval. A certain amount of training is given, and whenever possible trainees are sent to employment with private employers.

Any man who is the head of a family requiring relief may obtain three days' work in each week at the Randwick Dépôt, where he is housed and fed, and on the conclusion of his work, given an order for 7s. 6d. worth of food materials. Breaks are made in this relief from time to time so as to induce recipients to make other arrangements. In exceptional cases orders are issued in advance of work, and sometimes without work being exacted.

Cheap Dwellings for Workmen.

To compensate for the reduction in the hours of work of labourers and tradesmen employed on Government works, it was decided during the month of October, 1914, to erect canvas dwellings to house the families of these workmen at a nominal rental. The dwellings, which contain three rooms, were erected on a site at Randwick; the approximate original cost being £10 each, and the rental from 1s. 6d. to 2s. 6d. per week. During 1915 the canvas used in the construction was replaced with galvanised iron, and the rentals were increased to 4s. 6d. per week. As a comparatively small number of Government workmen made application for the dwellings, they were made available to other applicants.

INDUSTRIAL ACCIDENTS.

Factories.

In regard to the factory districts, accidents, fatal or otherwise, are reported from year to year, the responsibility resting upon factory inspectors of seeing that all dangerous portions of machinery are properly and securely fenced and guarded.

The following table shows in comparative form the accidents reported during the years 1912-15, and the accident rate per 10,000 employees. The figures for 1912 and 1913 relate to the Metropolitan and Newcastle districts only, in the following year the particulars embrace the Western district also, and in 1915 the accidents in all the factory districts were recorded:—

Accidents.	Number.				Rate per 10,000 Employees.			
	1912.	1913.	1914.	1915.	1912.	1913.	1914.	1915.
Fatal	3	13	9	9	·35	1·46	1·02	·91
Permanent disablement ...	2	1	5	..	·23	·11	·57	...
Partial disablement ...	105	99	99	75	12·36	11·15	11·28	7·56
Temporary incapacitation ...	405	375	329	348	47·66	42·24	37·48	35·07
Total	515	488	442	432	60·60	54·96	50·35	43·54

On the figures shown above, temporary incapacitation is the result of approximately 78 per cent. of the accidents; records are not available to show the time lost through these mishaps. The remaining 22 per cent. of accidents resulted in death or disablement.

Lifts and Scaffolding and Boiler Inspection.

Boiler inspection under section 62 of the Factories and Shops Act, 1912, and supervision of scaffolding, lifts, cranes, &c., as provided in the Scaffolding and Lifts Act, 1912, are under the care of the Department of Labour and Industry.

From 10th March to 31st December, 1916, 3,210 steam boilers and pressure vessels installed in factories were inspected, viz., 2,222 steam boilers and other steam generators, and 988 pressure vessels of varying types.

During the year 6,120 individual scaffoldings and 1,140 cranes and hoists were inspected in the Metropolitan and Newcastle districts, and three fatal and fifteen non-fatal accidents in connection with building operations generally in those districts were reported.

The 2,200 lifts in the Metropolitan district, including eighty-eight lifts erected during the year 1916, carried about a hundred million passengers during the twelve months, and no member of the public sustained injury in the course of their use. Three fatal and seven non-fatal accidents involving employees in and about lifts and whips were recorded. In no case was the cause attributable to faulty mechanism.

During the year 587 new certificates were issued to passenger lift attendants, making a total of 4,112 certificates granted.

Pursuant to the Scaffolding and Lifts Act and upon examination and recommendation by the Chief Inspector, the Government Architect, during 1916, issued drivers certificates respecting the driving of power-operated cranes and hoists as hereunder:—

First-class certificates	2
Second-class certificates	14
Third-class certificates	12
	—
Total	28

INDUSTRIAL DISEASES.

As regards industrial diseases, no reliable records are available; but certain avocations are, with good reason, regarded as unhealthy; for instance, rock-chopping and sewer-mining, insulating work involving handling of charcoal, and, notably, manufactures in which industrial poisons are employed, as in the manufacture of metals, lead colours, and electric accumulators, in the pottery, painting, gem-polishing, file-cutting, and similar industries.

In the majority of unhealthy trades there are frequent compensating advantages in the way of short hours and high wages.

The Workmen's Compensation Act, 1916, provides for compensation in respect of certain industrial diseases, viz.:—Anthrax; poisoning by lead, mercury, phosphorus, arsenic, nitro, and amido derivatives of benzene, carbon, bisulphide, nitrous fumes, nickel carbonyl, or Gonioma Kamassi (African boxwood); ankylostomiasis; chrome ulceration; eczematous ulceration of the skin produced by dust or caustic or corrosive liquids, or ulceration of the mucous membrane of the nose or mouth produced by dust; epitheliomatous cancer, or ulceration of the skin or corneal surface of the eye due to pitch, tar, or tarry compounds; scrotal epithelioma; nystagmus; glanders, compressed air illness; subcutaneous cellulitis of the hand or over the knee; acute bursitis over the elbow; and inflammation of the synovial lining of the wrist joint and tendon sheaths.

The use of white phosphorus in the manufacture of matches is prohibited by the White Phosphorus Matches Prohibition Act, 1915.

WORKMEN'S INSURANCE.

State Legislation.

The Workmen's Compensation Act, 1916, which relates to employers' liability, came into operation on 1st July, 1917, the earlier enactments, viz., the Employers' Liability Act, 1897, Miners' Accident Relief Acts, 1900-1912, and the Workmen's Compensation Act, 1910, being repealed as from that date.

As regards the mining industry, which was exempted specifically from the jurisdiction of the Workmen's Compensation Act, 1910, particulars of the Miners' Accident Relief Fund are given in the chapter "Mining Industry" of this Year Book.

Miners' Accident Relief (Repeal) Act, 1916.

The Miners' Accident Relief (Repeal) Act, 1916, provides for the closing of the Miners' Accident Relief Fund at the date of the commencement of the Workmen's Compensation Act, 1916, viz., 1st July, 1917. Provision is made for the payment from the Consolidated Revenue Fund of allowances for accidents occurring before that date.

Employers' Liability Act, 1897.

The Employers' Liability Act, 1897, gave to a workman, who had suffered personal injury in the course of his employment, the same common law remedies against his employer as if he had been injured by one not his employer.

Workmen's Compensation Act, 1910.

This Act, which came into operation in January, 1911, provided for compensation to workmen for injuries suffered in the course of their work.

Compensation in case of death ranged from £200 to £400. If the workman left no dependents, the compensation was limited to medical and funeral expenses up to £12. Where total or partial incapacity resulted, the employer was required to make a weekly payment, not exceeding 50 per cent. of the average weekly earnings during the preceding twelve months, up to a maximum of £1 per week, and a total liability to the employer of £200. In the case of employees under 21 years of age receiving less than 20s. a week, 100 per cent. of average earnings was substituted for 50 per cent. up to a maximum of 10s. per week.

The Act did not exclude the operation of the common law or the Employers' Liability Act, 1897.

During 1916 returns were received from 554 employers, who employed an average number of 83,825 males and 6,399 females to whom the Act applied. Compensation amounting to £12,431 was paid in respect of 52 deaths; 123 cases of non-fatal accidents were settled by the payment of lump sums amounting to £10,036, and in 5,154 cases of disablement £29,635 was paid in weekly instalments; the duration of such compensation was as stated below:—

Duration of Compensation.	Number of Cases.	Duration of Compensation.	Number of Cases.
Less than 2 weeks	2,536	26 weeks and less than 52	49
2 weeks and less than 3	781	1 year and less than 2	7
3 " " 4	554	2 " " 5	3
4 " " 13	980	Not terminated at end of year	67
13 " " 26	177	Total... ..	5,154

The particulars disclosed by the returns received during the last four years are compared in the following statement:—

Particulars.						1913.	1914.	1915.	1916.
Returns Received	...	...	...	...	...	488	448	467	554
Employees covered—									
Males	...	...	...	...	...	77,088	120,707	94,046	83,825
Females	...	...	...	...	...	3,774	2,384	3,782	6,399
	Total	...	...	...	...	80,862	123,091	97,828	90,224
Compensation—									
Cases—Deaths	...	...	...	...	...	62	65	52	52
Disablement—Weekly payments	...	...	...	...	...	6,061	6,250	5,778	5,154
Lump sums	...	...	...	...	...	156	136	76	123
	Total	...	...	...	...	6,279	6,451	5,906	5,329
						£	£	£	£
Amount—Deaths	...	...	...	...	...	14,797	15,256	12,072	12,431
Disablement—Weekly payments	...	...	...	...	...	30,275	30,159	27,073	29,635
Lump sums	...	...	...	...	...	9,079	8,043	5,426	10,036
	Total	...	...	...	...	54,151	53,458	44,571	52,102

Workmen's Compensation Act, 1916.

The Workmen's Compensation Act, 1916, which came into force on the 1st July, 1917, relates to all employees whose remuneration does not exceed £312 per annum, with the exception of casual hands employed otherwise than for the purpose of the employer's trade or business, members of the Police Force, outworkers, and of members of the employer's family dwelling in his house.

The Act applies in respect of certain industrial diseases, as specified in a schedule, and in respect of accidents to seamen employed on ships whose first port of clearance and whose destination are in New South Wales, but seamen who claim compensation under this Act must agree not to proceed also under the Seamen's Compensation Act of the Commonwealth. The amount of compensation shall be:—

(a) Where death results from the injury—

- (i) if the workman leaves any dependents wholly dependent upon his earnings, a sum equal to his earnings in the employment of the same employer during the three years next preceding the injury, or the sum of £300, whichever of those sums is the larger, but not exceeding in any case £500: Provided that the amount of any weekly payments made under this Act and any lump sum paid in redemption thereof shall be deducted from such sum, and if the period of the workman's employment by the said employer has been less than the said three years, then the amount of his earnings during the said three years shall be deemed to be 156 times his average weekly earnings during the period of his actual employment under the said employer;
- (ii) if the workman does not leave any such dependents, but leaves any dependents in part dependent upon his earnings, such sum, not exceeding in any case the amount payable under the foregoing provisions as may be agreed upon, or, in default of agreement, may be determined, on arbitration under this Act, to be reasonable and proportionate to the injury to the said dependents; and
- (iii) if he leaves no dependents, the reasonable expenses of his medical attendance and burial not exceeding £20.

- (b) Where total or partial incapacity for work results from the injury, a weekly payment during the incapacity not exceeding 50 per cent. of his average weekly earnings during the twelve months, if he has been so long employed, but if not, then for any less period during which he has been in the employment of the same employer, such weekly payment not to exceed £2, and the total liability in respect thereof shall not exceed £750.

Provided that as respects the weekly payments during total incapacity of a workman who is under 21 years of age at the date of the injury, and whose average weekly earnings are less than 20s., 100 per cent. shall be substituted for 50 per cent. of his average weekly earnings, but the weekly payment shall in no case exceed 15s.

Commonwealth Legislation.

In addition to the general enactments of the State, specific enactments of the Commonwealth provide for compensation to men in a particular class of work which is subject to special risks, and to officers in the service of the Commonwealth Government. Particulars regarding war pensions in connection with military and naval services are shown in the chapter "Social Condition."

Seamen's Compensation.

The Seamen's Compensation Act, 1911, provides for compensation to seamen for injuries suffered in the course of their employment. It is applicable to seamen (a) on ships in the service of the Commonwealth, other than naval or military service; (b) on ships trading with Australia or engaging in any occupation in Australian waters, and being in territorial waters of any territory which is part of the Commonwealth; and (c) on ships engaged in trade and commerce with other countries or among the States. In case of ships not registered in Australia, the two last clauses apply only in relation to seamen shipped under articles of agreement entered into in Australia, and while the ships are subject to the law of the Commonwealth. Compensation is not payable in respect to any injury which does not disable the seaman for at least one week; in case of death, the amount of compensation, when deceased leaves dependents, is the equivalent of three years' wages in the particular employment, or £200, to a maximum amount of £500.

The compensation is reducible with the measure of dependence, but the minimum for a seaman leaving no dependents is the cost of medical attendance and burial to the value of £30.

In case of total or partial incapacity, a weekly payment during the incapacity not exceeding 50 per cent. of the average weekly earnings during the twelve months, or for any less period, previous to the injury.

PRIVATE FINANCE.

CURRENCY AND COINAGE.

THE Commonwealth Coinage Act, 1909, states that "every transaction, dealing, matter, and thing whatever relating to money, or involving the payment of, or the liability to pay any money, shall be made, executed, entered into, done, and had, according to the coins which are current and are legal tender under the Act." Previously the coins current in New South Wales corresponded with those of the monetary system of the United Kingdom, and were issued by the Royal Mint of England through its Sydney Branch.

The Commonwealth Treasurer has power to issue silver and bronze coin made to his order, of specified denominations. In addition, a nickel coinage is authorised, the denominations, fineness, and weight of which will be specified by proclamation; but so far no advantage has been taken of this authorisation.

A tender of payment, made in British or Australian coins, is legal, if made in gold coins, for any amount; in silver coins, for a maximum amount of forty shillings; and in bronze for a maximum amount of one shilling. Australian notes are legal tender throughout the Commonwealth.

The principal variation of the Australian from the British system lies in the elimination of the half-crown from the Australian silver coinage.

For gold coins, the standard fineness is $\frac{11}{12}$ fine gold, $\frac{1}{12}$ alloy, or millesimal fineness, 916·6; for silver coins, $\frac{3}{4}$ fine silver, $\frac{1}{4}$ alloy, or millesimal fineness, 925; bronze coins are of mixed metal—copper, tin, and zinc.

Standard or sovereign gold of 22 carats fineness is worth £3 17s. 10½d. per oz.; pure or 24-carat gold is worth £4 4s. 11½d. per oz., but the gold contained in deposits sent to the Sydney Branch of the Royal Mint, for melting, assaying, and coining, is valued at the rate of £3 17s. 10½d. per oz. standard or sovereign gold, and there is thus no premium on gold.

The average price of standard silver in the London market for various years since 1875 was as follows:—

Year.	Price of Silver per standard oz.	Year.	Price of Silver per standard oz.	Year.	Price of Silver per standard oz.
	d.		d.		d.
1875	56·81	1895	29·88	1911	24·56
1880	52·25	1900	28·31	1912	28·06
1885	48·62	1905	27·81	1913	27·56
1890	47·75	1910	24·69	1914	25·19
				1915	23·67

The fluctuations in value during 1915 are shown in the following table of average monthly prices:—

Month.	Price of Silver per standard oz.	Month.	Price of Silver per standard oz.	Month.	Price of Silver per standard oz.
	d.		d.		d.
January ...	22·73	May ...	23·57	September ...	23·59
February ...	22·75	June ...	23·27	October ...	23·92
March ...	23·71	July ...	22·69	November ...	25·69
April ...	23·71	August ...	22·78	December ...	26·37

The nominal value of one ounce of silver coined into eleven sixpences is 5s. 6d., and of one pound (avoirdupois) of bronze coined into pence is 4s., and into halfpence or farthings 3s. 4d.

MINTING.

The Royal Mint of England has four branches, viz., one each at Sydney, Melbourne, Perth, and Ottawa (Canada). The earliest established of the Australian Branches was the Sydney Branch, opened on 14th May, 1855, the Melbourne Branch being opened in 1872, and the Perth in 1899.

Only gold coins are struck at Sydney Mint, but silver and bronze of English coinage are also issued. By arrangement, the Australian coins issued up to the present have been struck at the London Mint and forwarded to the Sydney Branch, whence they are distributed at the order of the Commonwealth Treasurer.

The total weight of gold sent for coinage to the Sydney Mint in the period from its foundation to 31st December, 1915, was 37,376,681 oz., valued at £138,127,927. Of this quantity New South Wales produced 11,882,308 oz., of the value of £43,953,472, the amount from each source being as follows:—

Where produced.	Weight.	Value.
	oz.	£
New South Wales	11,882,308	43,953,472
Victoria	1,447,492	5,940,451
Queensland (including Papua) ...	17,910,645	63,906,013
South Australia	99,822	341,949
Tasmania	151,082	536,770
New Zealand	5,478,978	21,903,578
Other Countries	80,515	280,665
Coin	325,839	1,264,729
Total	37,376,681	138,127,927

Nearly the whole of the gold mined in New South Wales and Queensland, and a big proportion of the output of New Zealand, is received at the Sydney Mint for coinage. The value of gold coin and bullion issued up to the end of 1915 was £137,895,755, of which £131,283,500 represented coin, the value of sovereigns being £126,726,500 and of half-sovereigns £4,557,000.

The gold bullion issued from the Mint includes pure gold in small quantities for the use of jewellers, chemists, and others, but the bulk consists of bars of fine gold issued to local banks. The amount of gold bullion issued during 1915 was valued at £72,036, the total from 1855 to the end of 1915 being 1,601,470 oz., valued at £6,612,255.

The first issue of bronze coin from the Sydney Mint took place in 1868, and of silver in 1879, the values of each to the end of the year 1910 being—bronze, £106,450, and silver, £1,239,400.

The issue of British silver and bronze coin in the Commonwealth ceased in 1910, the new Australian coins being first issued in that year.

The Australian silver and bronze coins issued from the Sydney Mint to the end of 1914 were valued at £620,400. The values of the several coins issued

in 1915 were:—Florins, £83,600; shillings, £23,000; sixpences, £23,700; threepences, £18,400; pence, £5,730; and half-pence, £1,340; the total value of the year's issue being £155,770, and the grand total to end of 1915, £776,170.

The coinage or nominal value of silver per standard ounce is 5s. 6d., and the average London market price per ounce during 1915 was 1s. 11·67d., the difference, 3s. 6·33d. representing the seigniorage or gross profit. Allowance being made for mint expenses, the profit on the local silver currency accrues to the Commonwealth Government, and the net profit on the Australian silver and bronze coinage since 1910 was as follows:—

Year ended 30th June.	Silver Coin.	Bronze Coin.	Year ended 30th June.	Silver Coin.	Bronze Coin.
	£	£		£	£
1910	66,845	.....	1913	111,659	4,744
1911	182,661	4,398	1914	188,106	8,295
1912	133,253	14,374	1915	189,081	8,334

The withdrawal of light gold coins is effected through the Sydney Mint at nominal value, provided that they have not been called in by any proclamation nor treated illegally, that is, impaired otherwise than by fair wear and tear, or defaced by stamping any device, &c., thereon.

Light gold coins in parcels of not less than £50 nominal value are received and recoinage free of charge, but depositors are required to bear the loss by abrasion. Worn gold coins have been received at the Sydney Mint for recoinage since 1876, and silver coins since 1873. The nominal value of gold coin withdrawn from circulation during 1915 was £663, and for the whole period since the opening of the Mint, £1,084,327.

Worn British silver coin of the value of £45,180 was withdrawn from circulation through the Sydney Mint, during 1915, and the aggregate value withdrawn to the end of 1915 was £447,267. British silver coin, not exceeding a nominal value of £50,000 in any one year, may be withdrawn at Sydney for re-issue in other parts of the British Empire, and replaced by Australian silver coin of equivalent value and denomination, and the total amount of re-issuable silver coin so treated to the end of 1915 was £100,300.

No Australian coins have yet been withdrawn from circulation.

Mint Receipts and Expenditure.

The receipts of the Mint, which are paid into the Consolidated Revenue of New South Wales, represent charges for coining gold, fees for assays, &c., and profits on sale of silver. Payment is made for all silver contained in deposits in excess of 8 per cent. of the gross weight, at a rate fixed by the Deputy Master, the present price being 1s. 6d. per oz. fine.

For assaying and coining gold, the charge is 1d. per ounce standard, and for melting and refining on all gold insufficiently refined and toughened for direct conversion into coin, a charge is made, the maximum being at the rate of 3d. per oz. gross, and the minimum 1d., with an additional 1s. per oz. on deposits containing more than 5 per cent. of base metal. The minimum charge on any one deposit is 6s., except in the case of deposits containing more than 5 per cent. of base metal, when the minimum charge is 10s. 6d.

The total receipts of the Sydney Mint since its establishment are shown below:—

Year.	Mint Charges.	Profit on Sale of Silver.	Fees for Assays and Crashings, and Proceeds of Sweep.	Total Mint Receipts (paid into Consolidated Revenue).
	£	£	£	£
1855 to 1905	531,650	145,067	95,285	772,002
1906	9,083	7,846	2,565	19,494
1907	6,836	4,884	2,136	13,856
1908	6,484	3,440	922	10,846
1909	6,149	4,141	698	10,988
1910	6,143	3,926	643	10,712
1911	6,320	3,496	455	10,271
1912	5,764	4,618	524	10,936
1913	5,474	4,325	1,094	10,893
1914	4,625	3,425	995	9,045
1915	5,092	2,612	66	7,770
Total £	593,620	187,810	105,383	886,813

The cost of maintenance of the Sydney Branch of the Royal Mint is borne by the State Government, £17,000 being set apart annually for that purpose. Special additional votes for limited amounts for construction, repairs, and furniture have also been made. The expenditure from Consolidated Revenue during 1915 amounted to £14,452.

PAPER CURRENCY.

Bank Notes.

Prior to 1910 the control of paper currency was vested in several private banking institutions, which had used their right to issue bank notes. In New South Wales, note currency issued by banks was subject to a tax at the rate of 2 per cent. per annum, by which the State benefited to the extent of £33,900 for the year 1910, but this has now been replaced by a 10 per cent. Commonwealth tax. The result of this tax has been to practically force the trading banks' notes out of circulation.

The following figures relating to the total liability, as regards notes and bills of banking institutions operating in New South Wales, show the position in regard to note circulation, for the quarter ended 31st December, at various periods prior to the issue of Australian notes in 1910, and the large decrease after the imposition of the 10 per cent. tax:—

Year.	Circulation in—		Total.
	Notes.	Bills.	
	£	£	£
1860	949,849	62,505	1,012,354
1870	695,366	50,515	745,881
1880	1,260,772	51,698	1,312,470
1890	1,557,805	127,442	1,685,247
1900	1,447,641	209,905	1,657,546
1910	2,243,128	370,199	2,613,327
1911	400,784	411,792	812,576
1915	91,559	426,597	518,156

The purpose of the note issue, primarily, was to obviate the necessity for keeping gold reserves in branch banks, the circulation being confined practically to country districts.

Australian Notes.

As a consequence of the Australian Notes Act passed in 1910 by the Federal Parliament, the Commonwealth Treasurer was authorized to issue notes, which are legal tender throughout the Commonwealth, and are redeemable in gold at the seat of Federal Government. These notes may be issued in the following denominations:—10s., £1, £5, £10, and any multiple of £10; and against the note liability the Treasurer was bound in terms of the Act to hold in gold coin a reserve of not less than one-fourth of the notes in circulation up to £7,000,000, and a pound for pound equivalent of notes issued in excess of £7,000,000. By an amending Act passed in 1911 the pound for pound reserve above £7,000,000 was repealed, and a minimum 25 per cent. reserve fixed against all issues.

The value of the Australian notes issued as at 27th December, 1916, was: £46,660,462, and the gold reserve held against this note issue was £16,600,611.

Under the Act of 1910, the balance of the reserve, or any part thereof, may be invested on deposit in a bank, or in securities of the United Kingdom, of the Commonwealth, or of a State. Further, as cover for the notes additional to the gold reserve, Treasury bills to the total amount of the notes may be issued by the Treasurer, within or beyond the limits of the Commonwealth.

MONEY ORDERS AND POSTAL NOTES.

Exchange by means of money orders and postal notes is conducted by the Post and Telegraph Department of the Commonwealth. Remittances may be forwarded by money order from the principal post offices of New South Wales to other parts of the world, the orders being sent either direct to the place of payment if within the Commonwealth, or through intermediary agencies to places outside Australia. So far as small remittances within the State are concerned, the money-order and postal-note systems are both effective; but as public convenience is met by the postal note, the money-order system is in fact confined almost entirely to amounts exceeding £1.

Money Orders.

The money-order system was initiated in January, 1863. In that year there were 3 orders issued for every hundred persons in the State, and the total value of the orders was £53,682. During the year ended 30th June, 1916, the total number of orders issued was 1,197,567, and the total value £5,282,556. Appended is a statement of the business transacted during the year ended 30th June, 1916, by means of money orders:—

Where Payable.	Issued in New South Wales.		Where Issued.	Paid in New South Wales.	
	No.	Value.		No.	Value.
In New South Wales	981,767	£ 4,505,492	In New South Wales	1,069,398	£ 4,522,359
In Other States ..	80,780	357,323	In Other States ...	101,104	464,632
Beyond the Commonwealth.	135,020	419,741	Beyond the Commonwealth.	64,897	210,509
Total ...	1,197,567	5,282,556	.....	1,235,399	5,197,500

The next table distinguishes money orders drawn on New South Wales from those drawn on other countries. The value of the orders issued and paid in the State at intervals since 1895 was as follows:—

Year.	Issued in New South Wales.			Paid in New South Wales.		
	Payable in New South Wales.	Payable elsewhere.	Total.	Issued in New South Wales.	Issued elsewhere.	Total.
	£	£	£	£	£	£
1895	985,771	283,429	1,269,200	984,509	262,726	1,247,235
1900	1,182,554	325,413	1,507,967	1,178,713	362,822	1,541,535
1905	1,746,866	329,280	2,076,146	1,757,229	425,400	2,182,629
1910	2,311,711	494,314	2,806,025	2,308,056	571,334	2,879,390
1911	2,258,506	560,677	2,819,183	2,334,908	614,356	2,949,264
1912	2,530,659	728,353	3,259,012	2,521,837	668,666	3,190,503
1913	2,930,233	834,973	3,765,206	2,925,863	656,796	3,582,659
1914	3,057,216	797,487	3,854,703	3,061,117	654,562	3,715,679
1915-16	4,505,492	777,064	5,282,556	4,522,359	675,141	5,197,500

A commission is paid to countries to which money is transmitted in proportion to the amount of the orders forwarded, the rate varying from $\frac{1}{2}$ to 1 per cent., and a similar allowance is made to the State by countries doing a return business. The revenue received during the year 1915-16 in respect of commission on the money orders issued was £27,246.

The total amount of commission collected from the public for the intervening years quoted above, and the excess of receipts over payments, are recorded as follows:—

Year.	Gross Commission Collected from the Public.	Net Receipts from Other Countries.	Net Commission received by New South Wales.
	£	£	£
1895	14,863	(-) 234	14,629
1900	16,296	51	16,347
1905	19,313	419	19,732
1910	20,962	220	21,182
1911	21,677	83	21,760
1912	26,654	(-) 433	26,221
1913	26,864	628	27,492
1914	26,448	(-) 911	25,537
1915-16	*	*	27,246

* Not available.

The rates of commission on money orders payable in the Commonwealth and Papua are respectively 6d. and 9d. for every £5. The largest amount for which orders may be issued is £20, and the maximum charges are 2s. in the States and 3s. to Papua. The charges on those payable in New Zealand and Fiji are:—Not exceeding £2, 6d.; £2 to £5, 1s.; £5 to £7, 1s. 6d.; £7 to £10, 2s.; and in the same proportion up to £20. The commission on orders payable in the United Kingdom, other British Possessions, and foreign countries, is at the rate of 6d. for any amount up to £2, and 3d. for each additional pound or fraction thereof. In case of remissions to foreign countries through London, a second commission of 3d. for each £5 or fraction thereof is charged, this commission being added to the amount of the order.

Within Australasia remittances may be made by telegraph to and from money order offices, which are also telegraph or telephone offices, and a charge is made for the telegram of advice, in addition to the ordinary commission.

Postal Notes.

Postal notes were first issued in New South Wales on 1st October, 1893. The transactions for subsequent periods were as follow:—

Year.	New South Wales Postal Notes.			Postal Notes of other Australian States paid in New South Wales.					
	Paid in New South Wales.	Paid in other Australian States.	Total Value.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total Value.
	£	£	£	£	£	£	£	£	£
1895	243,188	16,360	259,557	7,627	3,863	1,431	..	441	13,362
1900	462,087	26,306	488,483	12,207	9,899	2,209	..	1,047	25,362
1905	637,465	85,703	723,168	35,034	28,535	8,752	9,170	5,712	87,203
1910	910,136	182,000	1,092,136	45,725	49,873	14,211	11,821	7,674	129,304
1911	977,451	216,574	1,194,025	46,234	50,010	14,268	10,980	7,621	129,113
1912	1,057,439	223,152	1,280,591	49,763	52,512	15,818	11,358	8,613	138,060
1913	1,132,916	278,929	1,411,845	50,898	54,532	15,467	11,512	8,448	140,657
1914	1,205,476	310,116	1,515,592	51,182	57,283	15,179	11,357	8,915	143,915
19-1916	1,155,445	266,770	1,422,215	*	*	*	*	*	123,687

* Not available.

The total number of postal notes issued in New South Wales during the year ended 30th June, 1916, was 4,055,440, of which 3,180,683 were for payment in the State, and 337,037 notes issued in other States were paid in New South Wales.

The poundage collected on postal-note issues in New South Wales during the same years was as follows:—

Year.	Poundage.	Year.	Poundage.
	£		£
1895	6,317	1912	24,906
1900	11,850	1913	25,949
1905	14,262	1914	29,453
1910	21,309	1915-16	28,168
1911	23,389		

TRADING BANKS.

Banking institutions transacting ordinary banking business within the State during 1916 numbered eighteen, including the Commonwealth Bank of Australia, which commenced operations in Sydney in January, 1913. Five institutions have their head offices in Sydney, four in Melbourne, two in Brisbane, one in Wellington (N.Z.), four in London, one in Paris, and one in Yokohama. Of the five local banks, four have branches outside the State. Two of the local banks—the Bank of New South Wales and the City Bank of Sydney—carry on business under the provisions of special Acts of Incorporation, and in each case the reserve liability attaching to the shares is equivalent to the amount originally subscribed. The Commercial Banking Company of Sydney and the Australian Bank of Commerce are registered as limited companies under the Companies Act, 1906. The latter mentioned bank was registered in September, 1909, and commenced operations on 1st January, 1910. Previously it was registered and operated as the Australian Joint Stock Bank. The Bank of North Queensland is now known as the Bank of Queensland, the new title having been assumed on the amalgamation of the old bank with the Royal Bank of Queensland. Including branches and head offices, New South Wales is served by 691 banking establishments, excluding Savings Banks.

Institutions which transact banking business are required under the Banks and Bank Holidays Act, 1912, to furnish, in a prescribed form, quarterly statements of their assets and liabilities, from which returns and from the periodical balance-sheets, the information contained in the following tables has been prepared.

Although the returns furnished comply with the requirements of the law, they are unsuited to modern banking methods, and cannot be accepted as fairly disclosing the stability or otherwise of the banks. For instance in the Profit and Loss Accounts of some of the banks, the net profit is shown after deducting the interest on deposits and all other expenses. The details relating to management, such as salaries, directors' fees, printing and stationery, rent and repairs, taxes, depreciation, rebate on bills, and other expenses, are not disclosed. The balance-sheets also are incomplete, as in the liabilities the capital is not divided into the number of shares and into the amount called up, showing the particulars of ordinary and preferential shares separately. With regard to the assets, the value of coin, bullion, and cash balances is grouped under one item in some cases, while the amounts of Government securities, advances to customers, overdrafts, and other sums due to the bank are also included under a general heading.

The classification, both of assets and of liabilities, required by the schedule to the Act is too general to admit of detailed analysis; thus under the term "deposits not bearing interest," most of the banks are accustomed to return interest accrued and all debts due by them other than deposits at interest, notes, and bills, and in the assets, no dissection is made of the various classes of advances.

BANKING INSTITUTIONS AND CAPITAL.

The paid-up capital of the banks doing business in New South Wales on 30th June, 1916, exclusive of the Comptoir National d'Escompte de Paris, the Yokohama Specie Bank, and the Commonwealth Bank of Australia was £18,953, 756, of which £2,061,743 carried a preferential claim on the profits of the companies.

In the following table is a statement of the ordinary and preferential capital of fifteen banks at the dates shown, with the amount of the reserve fund of each institution. The three institutions omitted from the previous paragraph are also excluded:—

Bank.	Offices in New South Wales.	Date of Balance- sheet.	Capital Paid up.			Reserve Fund.
			Ordinary.	Preferen- tial.	Total.	
HEAD OFFICE, SYDNEY.						
	No.		£	£	£	£
Bank of New South Wales	171	Mar., 1916	3,500,000	..	3,500,000	2,675,000
Commercial Banking Co. of Sydney ..	179	June, 1916	2,000,000	..	2,000,000	1,875,000
Australian Bank of Commerce	69	June, 1916	1,197,394	..	1,197,394	85,000
City Bank of Sydney	47	June, 1916	400,000	..	400,000	45,000
HEAD OFFICE, MELBOURNE.						
Commercial Bank of Australia	19	June, 1916	1,467,349	..	1,467,349	Nil.
Royal Bank of Australia	1	Mar., 1916	300,000	..	300,000	252,500
National Bank of Australasia	12	Mar., 1916	1,192,440	305,780	1,498,220	610,000
Colonial Bank of Australasia	1	Mar., 1916	135,230	304,014	439,280	260,000
HEAD OFFICE, BRISBANE.						
Queensland National Bank	1	June, 1916	480,000	..	480,000	212,000
Bank of Queensland	6	June, 1916	162,500	..	162,500	37,500
HEAD OFFICE, WELLINGTON.						
Bank of New Zealand	1	Mar., 1916	1,000,000	1,279,980	2,279,980	2,062,142
HEAD OFFICE, LONDON.						
Bank of Australasia	48	Oct., 1915	2,000,000	..	2,000,000	2,810,000
Union Bank of Australia	39	Feb., 1916	2,000,000	..	2,000,000	1,960,000
London Bank of Australia	32	Dec., 1915	497,657	171,930	669,587	330,000
English, Scottish, and Australian Bank ..	52	June, 1915	539,437	..	539,437	400,000
Total	678	....	16,892,013	2,061,743	18,953,756	13,614,142

In addition to the paid-up capital shown above, amounts of £1,285 and £198 had still to be paid in respect of calls made on the shareholders of the Australian Bank of Commerce and the London Bank of Australia, respectively.

The following table shows the amount of the paid-up capital and reserve funds of the fifteen banks referred to above, at intervals since 1895. The paid-up capital represents the amount contributed to each bank operating in New South Wales, irrespective of the countries where it was subscribed:—

Year.	Banks.	Capital Paid up.		Total.	Reserve Funds.
		Ordinary.	Preferential.		
	No.	£	£	£	£
1895	13	14,610,177	5,094,780	19,704,957	4,175,912
1900	13	12,212,129	4,594,940	16,807,069	4,529,109
1905	13	9,870,871	4,095,060	13,965,931	5,474,199
1910	15	13,911,796	2,281,754	16,193,550	8,462,235
1911	15	14,280,807	2,281,754	16,562,561	9,281,000
1912	15	14,689,126	2,281,754	16,970,880	10,121,000
1913	15	16,213,705	2,551,444	18,765,149	12,146,000
1914	15	16,830,402	2,060,743	18,891,145	12,984,000
1915	15	16,892,013	2,061,743	18,953,756	13,614,142

The decrease in the year 1905 was due to the writing down of the capital of the Australian Joint Stock Bank (now the Australian Bank of Commerce), the Commercial Bank of Australia, the Bank of New Zealand, and the London Bank of Australia; while a slight increase occurred in the capital of the Queensland National Bank. During the period 1905-1910, the capital was materially increased by additional calls on shares of the Bank of New South Wales, the Commercial Banking Company of Sydney, the Australian Bank of Commerce, and smaller items. A further augmentation was due to the commencement of operations in the State by the Colonial Bank of Australasia and the Royal Bank of Australia. Against these increases must be placed the estimated deficiency in connection with the Special Assets Trust Company, of the Commercial Bank of Australia, and the net increase during the five years 1905 to 1910 was £2,227,619. The increase from 1910 to 1915 is due to further calls on the shares of the Bank of New South Wales, the Commercial Banking Company of Sydney, the Bank of New Zealand, the Bank of Australasia, the Union Bank of Australia, and the London Bank of Australia.

LIABILITIES AND ASSETS OF BANKS.

The aggregate liabilities to the public in New South Wales and elsewhere of the banks enumerated were £263,891,849, against which there were assets representing £297,969,121. The following table gives the liability for each institution, notes in circulation and deposits being separated from other liabilities. In some cases small items which should be classed with "other

Liabilities" are included with deposits, as they cannot be distinguished in the balance-sheets:—

Bank.	Notes in Circulation.	Deposits (approximate).	Other Liabilities.	Total.
	£	£	£	£
Bank of New South Wales	458,197	40,833,407	14,402,388	55,693,992
Commercial Banking Co. of Sydney	14,927	24,284,844	773,539	25,073,310
Australian Bank of Commerce	710	4,815,510	465,622	5,281,842
City Bank of Sydney	5,748	2,142,331	.....	2,148,079
Commonwealth Bank of Australia .. .. .	.....	*39,223,764	2,401,522	41,625,286
Colonial Bank of Australasia	19,525	4,417,235	294,174	4,729,934
Commercial Bank of Australia	52,384	7,139,864	1,106,952	8,299,200
National Bank of Australasia	34,600	11,363,411	999,837	12,897,938
Royal Bank of Australia	891	2,558,489	462,380	3,021,760
Queensland National Bank	Nil.	9,723,487	596,921	10,320,403
Bank of Queensland	Nil.	1,079,049	70,939	1,149,988
Bank of New Zealand	1,862,523	23,556,677	1,767,410	27,186,910
Bank of Australasia	268,088	20,578,326	3,241,754	24,083,118
Union Bank of Australia	334,051	24,055,785	2,123,323	26,513,159
London Bank of Australia	6,249	5,497,143	711,268	6,214,665
English, Scottish, and Australian Bank	2,052	9,617,763	532,445	10,152,260
Total	£ 3,054,285	230,887,090	29,950,474	263,891,849

* Includes £9,477,896 Savings Bank Deposits.

The assets in New South Wales and elsewhere of each bank shown in the previous table are stated below. The amount of coin and bullion excludes £9,202,900 held by the Commonwealth Bank of Australia for the Treasurer, and the Australian notes include Fijian and Samoan notes in some cases:—

Bank.	Coin, Bullion and Cash Balances.	Australian Notes.	Advances.	Other Assets.	Total.
	£	£	£	£	£
Bank of New South Wales	10,419,809	7,305,830	28,114,172	16,225,622	62,065,442
Commercial Banking Co. of Sydney	4,132,700	2,805,102	15,138,053	7,011,983	29,087,843
Australian Bank of Commerce	665,065	201,739	4,434,809	1,285,826	6,587,439
City Bank of Sydney	428,558	122,418	1,716,747	337,265	2,604,988
Commonwealth Bank of Australia	9,845,524	15,303,831	5,721,357	10,901,643	41,772,355
Colonial Bank of Australasia	924,597	*	3,387,430	1,143,098	5,455,065
Commercial Bank of Australia	1,543,357	*	5,809,125	2,485,822	9,838,304
National Bank of Australasia	2,904,713	*	9,343,903	2,267,081	14,575,697
Royal Bank of Australia	747,817	*	2,065,633	780,711	3,594,161
Queensland National Bank	1,094,603	907,201	6,782,920	2,267,082	11,051,506
Bank of Queensland	250,415	77,708	822,710	209,093	1,359,926
Bank of New Zealand	5,574,276	183,553	11,844,766	14,115,119	31,717,714
Bank of Australasia	6,668,902	*	18,993,745	3,485,567	29,148,214
Union Bank of Australia	5,150,634	*	19,085,373	6,448,526	30,684,533
London Bank of Australia	1,345,810	*	4,626,631	1,289,799	7,262,240
English, Scottish, and Australian Bank	2,430,683	*	6,079,185	2,653,521	11,163,389
Total	£ 54,187,463	26,907,391	143,966,564	72,907,703	297,969,121

* Included with coin, bullion, &c.

The difference between the assets and liabilities shown in the table amounts to £34,077,272, and consists of the paid-up capital and reserves (£33,061,323) and dividends paid (£1,015,949).

LOCAL BUSINESS OF BANKS.

To render comparable the figures of the various banks, necessary adjustments have been made by excluding from the assets of the banks the balances due from branches and agencies outside New South Wales. The following table shows the assets and liabilities and the surplus assets of the banks, at intervals since 1860, the figures representing the average for the quarter ended 31st December in each year:—

Year.	Banks.	Assets within the State.	Liabilities within the State.	Surplus Assets.
	No.	£	£	£
1860	...	8,053,463	6,480,642	1,572,821
1870	...	9,863,071	7,198,680	2,664,391
1880	11	21,658,317	19,485,862	2,172,455
1890	17	51,679,795	36,828,633	14,851,162
1900	13	43,036,427	33,969,731	9,066,696
1905	13	43,694,137	38,860,062	4,834,075
1910	16	58,276,278	54,667,088	3,609,190
1911	16	64,881,499	58,349,554	6,531,945
1912	16	63,006,510	57,988,963	5,017,542
1913	17	66,046,728	60,233,681	5,813,047
1914	18	73,513,228	63,785,692	9,727,536
1915	18	82,111,359	74,227,052	7,884,307

Coin and bullion together represent only 14·7 per cent. of the average assets of the banks within New South Wales, and advances represent in the aggregate 66·2 per cent. of the total assets which the banks hold against their liabilities.

The tables show the preponderance of deposits among the liabilities, and of advances among the assets, and it may perhaps assist to a fuller realisation of the extent to which the banking business of the State depends on these two factors, to emphasise the fact that deposits represent 97·1 per cent. of liabilities (exclusive of liabilities to shareholders), while advances are 66·2 per cent. of assets, as quoted above.

The following statement shows the average liabilities within New South Wales, exclusive of liabilities to shareholders, during the quarter ended 31st December in each year:—

Year.	Notes.	Deposits.			Other Liabilities.	Total Liabilities.
		At Interest.	Without Interest.	Total Deposits.		
	£	£	£	£	£	£
1881	1,390,376	11,869,979	7,719,236	19,589,215	446,535	21,426,126
1885	1,714,095	18,387,705	8,819,979	27,207,684	923,843	29,845,622
1890	1,503,404	25,114,127	9,932,310	35,046,437	278,792	36,828,633
1895	1,223,864	20,406,822	10,222,437	30,629,259	183,929	32,037,052
1900	1,447,641	20,009,081	12,224,510	32,233,591	288,499	33,969,731
1905	1,430,335	22,211,627	14,859,427	37,071,054	358,673	38,860,062
1910	2,243,128	27,824,972	24,068,552	51,893,524	530,436	54,667,088
1911	406,784	30,089,470	27,050,686	57,140,156	808,614	58,349,554
1912	171,199	30,291,713	26,863,689	57,155,402	662,367	57,988,968
1913	123,468	31,646,555	27,221,654	58,868,209	1,242,004	60,233,681
1914	101,054	32,967,472	29,014,546	61,982,018	1,702,620	63,785,692
1915	91,559	35,464,943	36,584,540	72,049,483	2,086,010	74,227,052

The decrease in the value of notes in circulation in 1911 and subsequent years is accounted for by the issue of Commonwealth notes and the consequent calling in of notes issued by trading banks.

Against these liabilities, in which the steady growth of deposits is the outstanding feature, the average assets were as follows. From 1910 the "other assets" include Commonwealth notes:—

Year.	Coin and Bullion.	Advances.	Landed Property.	Other.	Total.
	£	£	£	£	£
1881	3,674,982	19,033,386	585,224	3,183,395	26,481,987
1885	4,233,109	30,556,628	958,349	2,067,490	37,815,576
1890	5,659,057	41,623,049	1,601,589	2,796,100	51,679,795
1895	7,516,278	35,707,153	1,919,017	479,881	45,622,329
1900	6,126,126	34,385,388	1,874,099	650,814	43,036,427
1905	8,823,260	32,447,659	1,799,231	623,987	43,694,137
1910	13,724,285	40,854,690	1,822,997	1,874,306	58,276,278
1911	13,026,727	46,916,003	1,887,261	3,051,503	64,881,499
1912	10,609,665	47,741,319	1,955,994	2,699,532	63,006,510
1913	13,615,842	46,856,166	1,949,098	3,625,622	66,046,728
1914	15,128,719	51,761,520	2,065,615	4,557,374	73,513,228
1915	12,065,902	54,393,106	2,174,225	13,473,126	82,111,359

Under the heading of "other assets" are grouped notes and bills of other banks, balances due from other banks, and Australian notes. In view of the increase since 1905 of the assets so included, some interest may attach to a detail statement of such items for the past ten years:—

Year.	Other Assets.		
	Notes and Bills of other Banks.	Balances due from other Banks.	Australian Notes.
	£	£	£
1906	335,979	379,602	...
1907	359,038	443,636	...
1908	388,925	431,377	...
1909	374,522	522,132	...
1910	906,857	675,702	291,747
1911	292,854	590,269	2,163,380
1912	321,422	479,451	1,898,659
1913	463,088	1,265,916	1,891,618
1914	449,295	1,351,040	2,757,039
1915	472,105	1,586,911	11,414,110

METALLIC RESERVES OF BANKS.

The proportion of metallic reserves which banking institutions should keep constantly in stock is not fixed by any enactment. Compared with the total liabilities, and with deposits at call and note circulation, the amount of coin and bullion has varied very considerably from year to year, as indicated below. The figures represent the weekly average amounts during the quarter ended 31st December in each year:—

Year.	Coin.	Bullion.	Total.	Proportion of Metallic Reserves—	
				To Total Liabilities.	To Deposits at Call and Note Circulation.
	£	£	£	per cent.	per cent.
1860	1,578,424	90,052	1,668,476	25·7	*
1870	1,291,177	86,744	1,377,921	19·1	*
1880	3,488,554	75,008	3,563,562	18·3	49·5
1890	5,575,058	83,999	5,659,057	15·4	49·5
1900	5,933,076	193,050	6,126,126	18·0	44·8
1910	13,527,019	197,266	13,724,285	25·1	52·2
1911	12,841,780	184,947	13,026,727	22·3	47·5
1912	10,436,216	173,449	10,609,665	18·3	39·2
1913	13,492,871	122,971	13,615,842	22·6	49·8
1914	14,995,145	113,574	15,128,719	23·7	51·9
1915	11,967,582	98,320	12,065,902	16·3	32·1

* Amount of deposits at call unobtainable.

ADVANCES BY BANKS.

Under the head of advances are included notes and bills discounted, and all other debts due to the banks. The bulk of the advances are secured by the mortgage of real estate or by the deposit of deeds over which the lending institutions acquire a lien, but the extent of the discounting of trade bills is not disclosed. An interesting summary is supplied in the following table:—

Year.	Advances.	Ratio of Advances to Deposits.	Advances per cent. of Total Assets.	Amount of Advances per Inhabitant.
	£	per cent.		£ s. d.
1860	5,780,700	111·9	71·8	16 17 6
1870	7,814,116	127·9	79·2	15 18 11
1880	17,210,205	96·2	79·5	23 12 4
1890	41,623,049	118·8	80·5	37 2 0
1900	34,385,388	101·2	79·9	25 4 0
1910	40,854,690	78·7	70·1	24 18 9
1911	46,916,008	62·1	72·3	27 12 4
1912	47,741,319	83·5	75·8	26 16 9
1913	46,856,166	79·6	70·9	25 11 5
1914	51,761,520	83·5	78·4	27 15 11
1915	54,398,106	75·5	66·2	29 2 3

DEPOSITS IN BANKS.

The total amount of money deposited with the banks operating in New South Wales during 1915 was, approximately, £295,986,862, of which sum £72,049,483 was received locally. Dealing only with local deposits, the following statement shows the average amount of money deposited at various periods commencing with 1860; the distinction between interest-bearing deposits and those at call was first made in 1880:—

Year.	Deposits.			Proportion of Deposits not bearing Interest to Total Deposits.	Proportion of Deposits to Liability (to Public).
	Bearing Interest.	Not bearing Interest.	Total.		
	£	£	£	per cent.	per cent.
1860	.....	.....	5,164,011	...	79·7
1870	.....	.....	6,107,999	...	84·8
1880	11,948,383	5,934,641	17,883,024	33·2	91·8
1890	25,114,127	9,932,310	35,046,437	28·4	95·1
1900	20,009,081	12,224,510	32,233,591	37·9	94·9
1910	27,824,972	24,068,552	51,893,524	46·4	94·9
1911	30,089,470	27,050,686	57,140,156	47·3	97·9
1912	30,291,713	26,863,689	57,155,402	47·0	98·6
1913	31,646,555	27,221,654	58,868,209	46·2	97·7
1914	32,967,472	29,014,546	61,982,018	46·8	97·1
1915	35,464,943	36,584,540	72,049,483	50·7	93·0

The deposits reached their highest level in December, 1915, when there was entrusted to the banks an average total of £72,049,483.

From the preceding tables it is apparent that the deposits in banks have increased very rapidly, while the advances made, though larger from year to year, have not increased in the same proportion.

INTEREST, DISCOUNT, AND EXCHANGE RATES.

The interest offered for fixed deposits is 2 to 2½ per cent. for sums deposited for six months; for twelve months' deposits the interest allowed is at the rate of 3½ to 4 per cent.; for periods of two years the rate of interest given is 4½ per cent. The practice of allowing interest on money fixed for less than six months was discontinued in May, 1894. The rates quoted are low, and the strength of deposits show that money equal to requirements is freely offered. The following is a statement of the average rates for twelve months' deposits from 1860 onwards:—

Year.	Bank Interest on Deposits for twelve months.	Year.	Bank Interest on Deposits for twelve months.
	per cent.		per cent.
1860	5	1911	3
1870	5	1912	3 to 3½
1880	5	1913	3½
1890	4½	1914	3½
1900	3	1915	3½ to 4
1910	3		

Under normal conditions the annual rate of interest paid on fixed deposits is uniform for all banks, and discount and overdraft rates should move down with the interest rates paid to depositors.

The rates for overdrafts and discounts at intervals from 1890 to 1915 were as follow:—

Year.	Overdraft Rates.	Discount Rates.	
		Bills at 3 months.	Bills over 3 months.
	per cent.	per cent.	per cent.
1890	9	7	8
1895	7 to 8	6 to 6½	7
1900	6 „ 7	5 „ 5½	5½ to 6½
1910	6 „ 7½	5 „ 6	6 „ 7
1911	6 „ 7½	5 „ 6	6 „ 7
1912	6 „ 8	5 „ 6	6 „ 7
1913	6 „ 8	5 „ 6	6 „ 7
1914	6 „ 8	5 „ 6	6 „ 7
1915	6 „ 8	5 „ 6	6 „ 7

The bank exchange rate on London, at sixty days' sight, averages about 1 per cent., but is subject to some fluctuation. In May, 1893, it was 3¼ per cent., the banks at that date requiring all their available assets. The rates from 1890 to 1915 were:—

Year.	Exchange rate on London at 60 days' sight.	
	Buying.	Selling.
	per cent.	per cent.
1890	99¾ to 100	100¾ to 101¾
1895	99½ „ 99¾	100¾ „ 100¾
1900	98¾ „ 99½	100¼ „ 100½
1910	98¾ „ 99	99½ „ 99¾
1911	98¾ „ 99	99½ „ 99¾
1912	98½ „ 99¼	99¾ „ 100½
1913	98¾ „ 98½	99¼ „ 99¾
1914	98¾ „ 98¾	99¼ „ 100¼
1915	98¾ „ 99½	100¼ „ 100½

PROFITS OF BANKS.

The results of the transactions of each bank for the latest period for which information is available are given in the following table. With the exception of the Bank of New Zealand, the London Bank of Australia, and the

English, Scottish, and Australian Bank, for which the figures relate to twelve months' operations, the amounts given cover a period of six months. The dates of the balance-sheets are as shown previously:—

Bank.	Balance brought forward.	Net Profits for half-year.	Total.	Half-yearly Dividend.		Amount transferred to Reserve Fund, &c.	Amount carried forward.
				Rate per cent. per annum.	Amount.		
	£	£	£		£	£	£
Bank of New South Wales ..	111,066	247,884	358,950	10	175,000	95,000	88,950
Commercial Banking Company of Sydney ..	75,969	133,569	209,538	10	100,000	70,000	39,538
Australian Bank of Commerce ..	4,079	29,124	33,203	3	10,000	17,961	5,242
City Bank of Sydney ..	2,881	14,028	16,909	4	8,900	6,000	2,909
Commonwealth Bank of Australia ..	...	93,598	93,893	..	...	93,893	...
Colonial Bank of Australasia ..	8,704	27,146	35,850	7	15,375	11,000	9,475
Commercial Bank of Australia ..	11,886	68,369	79,755	Pref., 4	42,347	*28,000	9,408
National Bank of Australasia ..	28,938	85,601	114,539	7	52,437	50,000	12,102
Royal Bank of Australia ..	7,916	19,485	27,401	8	12,000	7,500	7,901
Queensland National Bank ..	Nil.	51,393	51,398	..	†39,398	12,000	...
Bank of Queensland ..	3,661	6,521	10,182	6	5,119	5,000	63
‡Bank of New Zealand ..	57,171	§285,801	342,972	Pref., 4 Ord., 6 Bonus, 3	236,508	50,000	56,464
Bank of Australasia ..	113,353	201,743	315,096	Div'nd. 14 Bonus, 3	170,000	30,000	115,096
Union Bank of Australia ..	70,528	140,846	211,374	Div'nd. 10 Bonus, 2	140,000	Nil.	71,374
‡London Bank of Australia ..	23,317	74,867	103,184	7	46,393	32,000	24,791
‡English, Scottish, and Australian Bank ..	43,084	100,186	143,270	8	43,155	†66,885	83,230

* To reinstatement of Capital, £20,000; reduction of premises, £5,000; Officers' Guarantee and Provident Fund, £3,000. † To Private Deposits Repayment Fund. ‡ Twelve months' operations. § Exclusive of £21,292 for interest on guaranteed Stock, and £50,000 for reduction of bank premises, &c. ¶ £50,000 to Reserve Fund, £14,385 for purchase and cancellation of Deferred Inscribed Deposit Stock, and £2,500 to Officers' Guarantee and Provident Fund.

BANKS' EXCHANGE SETTLEMENT.

The Banks' Exchange Settlement Office, which was established in Sydney on 18th January, 1894, is not a clearing-house in the accepted meaning of the term, since the exchanges are effected daily at the banks by clerks of each institution. The results of the daily operations are notified to the secretary of the Banks' Exchange Settlement, who establishes the daily credit of each bank with the "pool," which is under the control of three trustees, and consists of £750,000 in gold; this money is deposited in the vaults of three of the banks, and may not be circulated or distributed. The contributions to the "pool" are according to the volume of the operations of each bank. The secretary notifies each bank daily of the amount of its credit with the "pool," and it is not permissible for any balance to remain below 25 per cent. of the fixed contribution. In the event of its credit reaching this margin, the bank is required to make up its deficiency with gold; this payment, however, is not made to the "pool," but to such other banks as may happen to have at their credit with the "pool" a larger sum than is required by the agreement. This arrangement retains intact the £750,000 comprising the "pool."

The growth in the volume of exchanges is shown in the following table:—

Year.	Amount of Exchanges.	Year.	Amount of Exchanges.
	£		£
1895	108,509,860	1913	348,741,175
1900	144,080,314	1914	353,068,040
1910	274,343,666	1915	357,803,425
1911	304,488,435	1916	422,371,972
1912	330,621,122		

The transactions of this office have grown steadily since its establishment; the large annual increases during the last seven years indicate a remarkable activity in trade, and evidence the general prosperity throughout the State.

COMMONWEALTH BANK OF AUSTRALIA.

During 1911 the Federal Parliament passed an Act to provide for the establishment of a Government Bank, to be called the Commonwealth Bank of Australia. The Act confers on the Bank authority to carry on general banking business and other incidental powers relating to acquisition of land, deposits, and advances, discounting and issue of bills and drafts, dealing in exchanges, specie, bullion, &c., and borrowing money. In accordance with the policy of conserving the control of the Australian note issue in the hands of the Federal Treasurer, the Commonwealth Bank may not issue bank notes.

The capital of the bank is fixed at £10,000,000, to be raised by the sale and issue of debentures. The management is entrusted to the Governor of the bank, appointed by the Governor-General of Australia for a term of seven years. In addition to ordinary banking business a department for the transaction of savings bank business has been established.

The Commonwealth Bank was inaugurated on 15th July, 1912, by the opening of a Postal Savings Bank department in Victoria. A savings department was commenced in Queensland on 16th September; in the Northern Territory on 21st October; and in New South Wales, South Australia, and Western Australia on 13th January, 1913; in Tasmania the State Savings Bank was transferred to the Commonwealth Bank on 1st January, 1913. The rate of interest for deposits is fixed at 3 per cent. up to a maximum of £300.

On 20th January, 1913, operations were commenced with regard to ordinary banking business.

The head office of the Commonwealth Bank is at Sydney, and twenty-seven branches have been opened in New South Wales and other States of the Commonwealth. In addition, branches have been opened at Canberra, Rabaul (New Britain), London, and at Tidworth (Salisbury Plain), England, for war purposes. Savings Bank business is conducted at all branches and at agencies and post offices throughout the Commonwealth, Papua, and New Zealand.

The following statement of the Savings department of the Commonwealth Bank shows the number of depositors in each State and in London and the amount to their credit as at 30th June, 1916:—

State.	1916.	
	Depositors.	Amount at Credit of Depositors.
	No.	£
New South Wales	87,563	2,748,050
Victoria	60,314	2,385,142
Queensland	45,012	1,600,067
South Australia	18,669	732,348
Western Australia	23,542	726,419
Tasmania	39,963	1,098,086
Northern Territory	1,139	77,956
Papua	650	25,263
London	1,684	84,565
Total	278,536	9,477,896

SAVINGS BANKS.

The objects of Savings banks are to encourage individual thrift, and to provide a safe channel of investment for funds, especially of charitable institutions, and in order to ensure public confidence and sound financing, a measure of State control or supervision is essential.

Two Savings bank were in operation in New South Wales prior to 1st May, 1914—the Savings Bank of New South Wales and the Government Savings Bank of New South Wales. Since that date these banks have been consolidated as one institution.

The Government Savings Bank of New South Wales, established in 1871, was conducted under the control of the Postmaster-General of New South Wales until March, 1901, when the postal service was transferred to the Commonwealth Government, and the Savings Bank was placed under the control of the Colonial Treasurer of New South Wales. Under agreement with the Federal Government, the transaction of the Savings bank business at post offices was continued until the end of the year 1912, when on the determination of the Commonwealth Government to establish a Savings bank the State Government formed separate branches, and agencies were provided throughout the State.

A notable change in the administration of the Government Savings Bank was made on 1st January, 1907, when the bank was detached from the direct control of the Colonial Treasurer, and three commissioners were appointed to conduct the Savings bank business, also the State business in connection with loans to land-holders, previously administered by the Advances to Settlers Board.

An agreement exists between the various Savings banks in Australia for the transfer of money of depositors, and similar arrangements obtain with the United Kingdom.

Savings Bank Amalgamation.

An Act to dissolve the Savings Bank of New South Wales, and to vest its property and liabilities in the Government Savings Bank, came into operation on 1st May, 1914. Persons who had deposits in the former bank at the date of amalgamation were entitled under certain conditions to continue their accounts for a period of ten years, and to receive on amounts up to £200 a slightly higher rate of interest than depositors in the Government Savings Bank, if the rate for the latter be lower than $3\frac{1}{2}$ per cent. Since the amalgamation the volume of business of the Savings Bank has steadily increased, notwithstanding the fact that the Commonwealth Savings Bank is operating in New South Wales. On the 30th June, 1916, there were 132 branches and 518 agencies of the Government Savings Bank open; the number of accounts being 719,319; the balance at credit of depositors, £34,615,222; and the interest paid to depositors during the year, £1,125,361. About one-fourth of the amount held to the credit of depositors represented deposits under £100; 61 per cent. deposits between £100 and £500, and the balance sums over £500. The rate of interest paid since the 1st October, 1915, by the State Savings Bank has been $3\frac{1}{4}$ per cent. on sums up to £500 for all accounts, and 3 per cent. on sums over £500 deposited by Friendly and kindred societies.

Deposits in all Savings Banks.

The following statement shows the particulars of deposits in the savings banks in New South Wales at the end of each year of the decennium ended

30th June, 1916. The returns of the Savings Department of the Commonwealth Bank are included in the figures for the last four years:—

At 30th June.	Number of Depositors.	Amount of Deposits.		
		Total.	Per Depositor.	Per head of Population.
		£	£ s. d.	£ s. d.
1907	408,859	16,338,051	39 19 2	10 15 3
1908	435,618	17,849,384	40 19 6	11 11 3
1909	444,930	19,022,151	42 15 1	12 1 6
1910	478,006	20,823,764	43 11 3	12 18 0
1911	522,251	23,381,014	44 15 4	14 1 5
1912	577,232	26,539,640	45 19 6	15 5 3
1913	647,124	29,568,282	45 13 10	16 6 10
1914	717,737	33,167,523	46 4 3	17 17 2
1915	755,835	35,562,649	47 1 0	19 0 7
1916	806,882	37,363,272	46 6 1	20 2 7

The following table shows for each State of Australia the number of depositors in Savings banks, the total amount standing to their credit, and the average amount per depositor and per head of population as at 30th June, 1916:—

State.	Depositors.	Amount of Deposits in all Savings Banks.	Average Amount.	
			Per Depositor.	Per Inhabitant.
	No.	£	£ s. d.	£ s. d.
<i>New South Wales</i> ...	806,882	37,363,272	46 6 1	20 2 7
Victoria ...	821,208	28,785,969	35 1 0	20 9 7
Queensland ...	249,235	12,630,987	50 13 5	18 7 5
South Australia...	299,148	9,725,633	32 10 3	22 8 7
Western Australia	155,335	5,202,933	33 9 11	16 10 8
Tasmania...	86,489	2,575,284	29 15 7	13 0 10
Total ...	2,418,297	96,284,078	39 16 5	19 12 10

In addition to the Deposit Branch there is an Advance Department, to provide financial aid to settlers and others. The "Advances to Settlers Board" had charge of the business relating to loans prior to 1st January, 1907; but the administration was transferred at that date to the Savings Banks Commissioners. There are three departments controlled by the Commissioners, viz., Irrigation, Homes, and Closer Settlement Promotion.

According to the published balance-sheet, the various departments have been, on the whole, profitably conducted. The Closer Settlement Branch, at the 30th June, 1916, had liabilities due to the Advances and Savings Bank Departments amounting to £1,978,702, and assets valued at £1,982,341, the difference, £3,639, being reserves and amounts held in trust. The Advances for Homes Account shows a small loss on the transactions of the year, viz., £2,701. The item shown below as "Other Liabilities" consists of sundries held in trust, £112, and amount for borrowers' special repayments, £2,044. The loss on the business of the Irrigation Farms Branch was only £226 for the same period, and if the balances brought forward and carried to the next year were excluded, the excess of expenditure would be reduced to £97.

INCORPORATED COMPANIES.

The legislation relating to incorporated companies in New South Wales is contained principally in the Companies Act, 1899, the amending Acts of 1900, 1906, and 1907, and the Companies (Death Duties) Act, 1901. These enactments follow the general provisions of Imperial Acts relating to companies up to 1877, with deviations embodying the results of local experience. To prepare the way for co-ordination of the law relating to the formation, management, and winding-up of joint stock companies throughout the Empire, and to secure a basis for uniformity, the question of company law was considered at Imperial Conferences held in London in 1907 and 1911, and it was resolved that uniformity should exist throughout the Empire in the law relating to companies, copyrights, patents, and trademarks.

Under the Companies Act, 1899, of New South Wales, the liability of members of limited companies may be limited either by shares, or by guarantee; unlimited companies are those in which no limitation is placed on the liability of members. A special feature of the Act is the embodiment of provisions for the formation and registration of companies in connection with the mining industry under the "No-Liability System," as previously defined in the No-Liability Mining Companies Act, 1896. Societies formed for the mutual benefit and advantage of the members only are registered under the Building and Co-operative Societies Act, 1901. Under the Companies Act, 1899, the formation of a company, association, or partnership of more than ten persons in a banking business, or of twenty in other businesses trading for profit, is prohibited, unless such company, association, or partnership be registered under the Act, or be incorporated under some other enactment, by royal charter, or by letters patent. Special provision is made for associations formed to promote commerce, art, science, religion, charity, or other useful object.

The following particulars relating to companies are recorded for the past seven years:—

Year.	Limited Companies.			No-Liability Mining Companies.		
	New Companies.	Nominal Capital.	Total Fees received.	New Companies.	Nominal Capital.	Total Fees received.
		£	£		£	£
1910	329	6,975,691	4,107	30	273,520	95
1911	400	10,627,217	5,427	24	359,500	80
1912	432	13,896,231	5,898	21	250,575	68
1913	444	12,336,737	5,790	26	568,910	84
1914	354	7,382,472	4,625	15	190,650	59
1915	286	7,074,617	4,153	15	170,450	57
1916	156	4,187,075	3,068	7	125,000	40

Ten of the limited companies now carry on bank deposit business in addition to their ordinary business. The liabilities, assets, and paid-up capital for the quarter ended June, 1916, were as follows:—

Companies.	Number.	Liabilities (excluding Shareholders).			Assets.			Paid-up Capital.
		Deposits.	Other Liabilities.	Total.	Landed Property.	Other Assets.	Total.	
		£	£	£	£	£	£	£
Investment	8	76,310	137,397	213,707	241,525	659,098	900,623	651,078
Trading	2	34,643	3,526,031	3,560,674	545,173	6,600,092	7,235,265	3,350,000
Total	10	110,953	3,663,428	3,774,381	786,698	7,349,190	8,135,888	4,001,078

CO-OPERATIVE TRADING SOCIETIES.

The working of the co-operative societies during the last five years is given in the following table:—

	1911.	1912.	1913.	1914.	1915.
Number of Societies ...	42	42	40	45	46
Number of Members ...	23,083	26,767	30,586	33,854	36,968
Liabilities—	£	£	£	£	£
Share Capital ...	138,201	156,534	199,174	234,846	253,185
Reserves and Net Profits ..	101,977	103,891	140,794	153,314	151,492
Other Liabilities ...	86,672	130,729	104,797	101,972	119,675
Total Liabilities ...	£ 326,850	391,154	444,765	490,132	524,352
Assets—					
Freehold, Plant, &c. ...	101,290	133,387	142,108	155,298	168,217
Stock ...	144,972	172,282	188,757	197,090	225,448
Other Assets ...	80,588	85,485	113,900	137,744	130,687
Total Assets ...	£ 326,850	391,154	444,765	490,132	524,352

Considering the small amount of capital, the results are very satisfactory, and afford inducement for the further development of these institutions. The majority of existing societies are engaged in the sale of groceries, provisions, boots, and clothing, or in the manufacture and supply of general commodities. Societies established outside the metropolitan and suburban districts are mostly in the mining districts.

During the year 1915 the sales amounted to £1,789,103, and the expenses, including interest and depreciation, to £242,817, equal to 13·6 per cent. on the amount of sales. The balances of profit amounted to £165,193, but in four cases there were losses amounting to £1,289. The profit on sales was at the rate of 9·2 per cent.

BENEFIT BUILDING AND INVESTMENT SOCIETIES.

Under the existing law any number of persons may form a benefit building and investment society to enable members to erect or purchase dwellings, &c., by loans secured to the society by mortgage until the amount of the shares has been fully paid. These institutions, which may be registered as Permanent Building societies or as Starr-Bowkett societies, are established solely for the benefit of the subscribing members, and their receipts are confined, as a rule, to the subscriptions.

The aggregate liabilities and assets, &c., of Permanent Building Societies for the years 1910-15 are shown in the following return:—

	1910.	1911.	1912.	1913.	1914.	1915.
Number of Societies ...	14	13	13	9	8	8
Liabilities—	£	£	£	£	£	£
Deposits ...	448,375	472,410	504,650	462,294	480,592	504,493
Share Capital ...	249,101	246,047	261,544	258,501	274,585	272,958
Reserves ...	81,326	87,258	93,714	91,918	103,896	133,986
Other Liabilities ...	9,216	26,800	18,775	36,389	47,584	23,915
Balance of Profit ...	34,324	38,905	36,111	61,576	53,113	33,390
Total ...	822,342	871,420	914,794	910,678	959,770	968,742
Assets—						
Advances ...	700,260	760,622	690,732	694,429	741,831	731,227
Other Assets ...	122,082	110,798	224,062	216,249	217,939	237,515
Total ...	822,342	871,420	914,794	910,678	959,770	968,742

The income of the eight societies operating in 1915 was £81,689, while the expenditure during the year amounted to £73,158.

Particulars relating to Starr-Bowkett Societies for the years 1910 to 1915 are shown below:—

	1910.	1911.	1912.	1913.	1914.	1915.
Number of Societies ...	71	87	94	100	108	109
Liabilities—	£	£	£	£	£	£
Members' Subscriptions.	385,444	493,666	590,975	744,256	855,272	995,749
Other Liabilities ...	49,227	41,862	35,971	15,529	28,617	36,892
Balance ...	29,562	38,715	41,451	63,495	75,996	94,752
Total ...	464,233	574,243	668,397	823,280	959,885	1,127,393
Assets—						
Advances ...	406,451	503,287	608,414	735,018	879,319	1,036,019
Other Assets ...	57,782	70,956	59,983	88,262	80,566	91,374
Total ...	464,233	574,243	668,397	823,280	959,885	1,127,393

FRIENDLY SOCIETIES.

The particulars relating to membership, sickness, and mortality of Friendly Societies will be found in the chapter of this volume relating to "Social Condition." The following pages will, therefore, deal with these societies from a financial standpoint only.

Receipts and Expenditure.

The receipts and expenditure of the societies for the ten years ended 31st December, 1915, are shown in the following statement:—

Year.	Receipts.				Expenditure.					
	Contributions.	Interest.	Other.	Total.	Sick Pay.	Funeral Donations.	Medical Attendance and Medicine	Expenses of Management.	Other.	Total.
	£	£	£	£	£	£	£	£	£	£
1906	315,191	38,385	42,451	396,027	86,794	23,871	104,813	42,527	41,194	299,199
1907	336,262	42,706	55,390	434,358	96,240	24,358	110,895	44,390	45,630	321,513
1908	345,313	45,903	44,205	435,421	101,989	29,819	116,888	47,714	50,033	346,443
1909	352,569	50,500	52,552	455,621	105,832	27,151	122,327	49,846	74,472	379,628
1910	372,220	59,312	32,561	464,093	124,789	30,051	128,627	54,184	46,672	384,323
1911	413,027	64,261	38,043	515,331	148,576	38,359	143,040	59,154	45,989	485,118
1912	456,097	69,559	32,493	558,189	166,270	40,828	157,821	66,455	42,654	474,058
1913	489,698	75,038	37,365	602,101	173,451	45,952	170,594	69,226	41,914	501,137
1914	496,961	80,707	34,915	612,583	172,796	44,446	182,308	87,358	39,463	526,371
1915	491,928	87,591	34,597	614,116	177,198	50,131	182,705	88,419	23,767	522,220

In 1908 rates of contributions were reduced in the majority of societies in consequence of the favourable position disclosed in the first quinquennial valuation, and of the assistance rendered to the societies generally under the Subvention Act.

The total amount disbursed in 1915 on account of benefits amounted to £410,034. The figures afford convincing evidence of the importance of the societies and of their immense value to the community.

The apparent increase in the expenses of management in 1914 and 1915 is due to the fact that the figures for those years include certain items of expenditure classified previously under the heading "Other."

Accumulated Funds.

The following comparative table shows the accumulated assets of all funds at the close of each of the last ten years:—

Year.	Sickness Fund.	Funeral Fund.	Medical and Management Fund.	Other Funds.	Total.
	£	£	£	£	£
1906	602,314	365,003	64,170	27,337	1,058,824
1907	651,812	425,946	70,894	20,782	1,169,434
1908	693,751	454,310	75,174	35,177	1,258,412
1909	731,315	488,759	71,711	44,045	1,335,830
1910	757,548	539,469	75,048	48,080	1,420,145
1911	783,434	595,238	78,264	49,852	1,506,838
1912	803,046	655,456	82,538	51,715	1,597,755
1913	839,689	719,413	87,446	52,171	1,698,719
1914	876,121	765,583	88,256	54,971	1,784,931
1915	908,655	826,203	89,421	52,548	1,876,827

The total funds of the Friendly Societies, which at 31st December, 1914, the date of the last quinquennial valuation, that being the latest available, amounted to £1,784,931, were invested as under:—

Mode of Investment.	Sickness Fund.	Funeral Fund.	Medical and Management Fund.	Other Funds.	Total Funds	
					Amount.	Per Cent.
	£	£	£	£	£	
Mortgage	697,173	555,356	14,241	26,517	1,293,287	72·5
Public Funds	2,806	3,631	645	.....	7,082	0·4
Banks bearing Interest	79,746	68,746	36,077	14,857	199,426	11·2
Buildings and Freehold Property.	78,249	91,544	28,096	2,460	200,349	11·2
Other Investments ...	4,096	1,625	4,222	3,512	13,553	0·7
Uninvested	25,936	22,552	17,540	7,581	73,542	4·1
In use by other Funds...	7,393	22,503	2,702	923	33,490	1·9
Total	895,399	765,957	103,523	55,850	1,820,729	102·0
Overdraft	19,278	374	15,267	879	35,798	2·0
Total Funds ...	876,121	765,583	88,256	54,971	1,784,931	100·0

Stating these figures as a total of all funds it is found that long-dated or permanent investments, comprising mortgages, buildings, freeholds, &c., form 84·4 per cent. of the total—short-call investments, i.e., money in savings banks, other banks, and public funds, form 11·6 per cent., while

cash represents 4·1 per cent. Overdrafts in the year under review represented 2 per cent., but the greater portion of these were provided from other funds, and the actual overdraft obtained from outside sources represented only 0·1 per cent. of the total funds.

To state the case more concisely, ready money equal to 4 per cent. of the assets is sufficient to carry on business, with an additional 11 per cent. available for easy realisation, and for the remainder more permanent investment is sought.

The adoption of consolidation of funds by vesting the control in central executive bodies has reduced the amount necessary to be kept at hand by branches, as the executive bodies make advances to meet any special contingencies that may arise. Thus the amount at short call has fallen from 35·5 per cent. in 1907 to 11·6 per cent. in 1914; and conversely the investments on mortgage have risen from 42·8 per cent. to 72·5 per cent. in the same period.

For the quinquennium 1910-14 the average interest earned by all societies in the sickness funds was 4·7 per cent., and in the funeral funds 4·6 per cent., the rates for the previous quinquennium being 3·9 per cent. and 4·2 per cent. respectively.

EXPECTATION OF LIFE.

Friendly Societies' Experience.

The following table shows the average expectation of life in years as deduced from the experience of the Friendly Societies in New South Wales in comparison with that of other experiences:—

Age.	N.S.W. Friendly Societies, 1900-8.	Victorian Friendly Societies, 1903-7.	South Australian Friendly Societies, 1895-1904.	Manchester Unity Friendly Society, England, 1893-97.	Australian Mutual Provident Society, 1849-1903.
18	48·68	48·45	47·89	47·11	49·12
23	44·37	44·15	43·84	42·73	44·81
28	40·02	39·85	39·71	38·57	40·56
33	35·70	35·57	35·69	34·49	36·36
38	31·48	31·27	31·65	30·44	32·26
43	27·34	27·03	27·65	26·54	28·25
48	23·30	22·96	23·75	22·74	24·32
53	19·43	19·09	19·98	19·11	20·55
58	15·92	15·50	16·48	15·72	16·92
63	12·76	12·43	13·30	12·60	13·63
68	9·87	9·70	10·36	9·91	10·78
73	7·43	7·51	7·75	7·55	8·37
78	5·49	5·71	5·38	5·72	6·11
83	3·97	4·37	3·73	4·45	4·24
88	2·81	3·30	2·72	3·62	2·82
93	1·95	2·37	1·46	2·69	1·53
98	1·39	1·27	...	1·34	...

LIFE AND GENERAL ASSURANCE.

The Life, Fire, and Marine Insurance Act of 1902 consolidated previous Acts relating to insurance. The section relating to marine insurance was superseded by the Commonwealth Marine Insurance Act of 1909, and the amount of assurance payable on the death of children is limited by a Commonwealth Act passed in 1905.

Particulars relating to life assurance institutions are obtained from the reports published by the companies and from official returns. During 1916 there were nineteen institutions operating in the State. Of these, ten were local, four had their head offices in Victoria, one in New Zealand, one in the United Kingdom, and three in the United States of America. As the operations of the American companies are confined to the collection of renewal premiums and a small amount of new business, the figures relating to them have been excluded from the following tables, unless where otherwise specified. Several companies, uniting life with other classes of insurance, have local branches or agencies, but their transactions in life risks in this State are unimportant.

Ordinary Branch—Total Business.

The following table gives the total business in force in the ordinary branch in detail, for each society for the year 1915-16, exclusive of the American companies. All the institutions do not close their transactions on the same date, and the figures relate to business existing at various periods between 30th September, 1915, and 30th June, 1916. The majority of the returns relate to the period ended 31st December, 1915:—

Institution.	Policies in Force, exclusive of Annuities.	Amount Assured, exclusive of Bonuses and Re-assurances.	Bonus Additions.	Total.	Annual Premium Income.
<i>Head Office in New South Wales.</i>	No.	£	£	£	£
Australian Mutual Provident	303,728	87,230,344	17,754,825	104,985,169	2,792,056
Mutual Life and Citizens'	121,259	22,704,731	2,397,573	25,102,304	764,618
City Mutual	24,890	3,826,879	235,352	4,062,231	160,263
Australian Metropolitan	3,670	356,099	12,446	368,545	16,878
People's Prudential	3,772	267,953	4,742	272,695	13,978
Australian Provincial	2,346	674,425	Nil.	674,425	27,421
Assurance and Thrift	1,149	215,966	2,431	218,397	10,540
Co-operative	566	126,395	Nil.	126,395	5,608
Australian Amicable	51	16,175	Nil.	16,175	738
<i>Head Office in Victoria.</i>					
Australian Alliance	329	112,937	10,384	123,321	2,563
National Mutual	119,695	30,532,382	2,516,679	33,049,061	1,092,889
Colonial Mutual	58,556	13,400,218	567,135	13,967,353	489,355
Australasian Temperance and General..	49,695	5,276,432	226,695	5,503,127	203,972
<i>Head Office in New Zealand.</i>					
Provident Life	2,992	406,614	4,255	410,869	13,169
<i>Head Office in United Kingdom.</i>					
*Liverpool and London and Globe ..	313	128,741	†	128,741	3,822
Total	698,011	165,306,261	23,733,517	189,039,808	5,597,870

* Australasian business only. † £0 available.

Ordinary Branch—New South Wales Business.

The business in force for the year 1915-16 in New South Wales only, under headings similar to those of the preceding table, is given below. The American Companies have been included in order to show the total assurances for the State:—

Institution.	Policies in Force, exclusive of Annuities.	Amount Assured, exclusive of Bonuses and Reassurances.	Bonus Additions.	Total.	Annual Premium Income.
	No.	£	£	£	£
Australian Mutual Provident... ..	85,225	24,750,525	5,148,420	29,898,945	787,486
Mutual Life and Citizens'	33,909	6,616,082	693,617	7,309,699	219,740
City Mutual	8,872	1,362,301	*	1,362,301	†57,100
Australian Alliance	Nil.	Nil.	Nil.	Nil.	Nil.
National Mutual	18,153	4,463,041	*	4,463,041	160,959
Colonial Mutual	10,144	1,791,597	56,833	1,848,430	66,424
Australasian Temperance and General	10,837	1,126,532	43,669	1,170,201	43,625
Australian Metropolitan	1,712	183,308	5,873	189,181	7,846
Equitable of the United States ...	1,346	497,159	7,536	504,695	21,862
Mutual of New York	1,988	891,652	65,190	956,842	24,215
New York	2,233	936,408	‡	936,408	34,654
Liverpool and London and Globe	146	54,261	*	54,261	1,766
People's Prudential	3,772	267,953	4,742	272,695	13,978
Provident Life	265	30,675	247	30,922	1,108
Australian Provincial	1,638	265,950	Nil.	265,950	11,690
Assurance and Thrift	942	182,328	2,431	184,759	8,306
Co-operative	438	84,388	Nil.	84,388	3,850
Australian Amicable	51	16,175	Nil.	16,175	738
Total	181,671	43,520,335	6,028,558	49,548,893	1,465,347

* Not available. † Approximate. ‡ Included in previous column.

Industrial Branch—Total Business.

In addition to the ordinary life transactions, a large industrial business has grown up during recent years. The policies in this class are usually for small amounts, and the premiums, in most cases, are payable weekly or monthly. The assurances may be effected on the lives of infants and adults, and the introduction of this class of business has proved of great benefit to the industrial population.

Eight of the Australasian companies combine industrial with ordinary business, while one limits its operations to industrial and medical benefit transactions. For the year 1915-16 the total business in force in Australasia

of the nine companies relating to industrial assurance is shown in the following table:—

Institution.	Policies in Force, exclusive of Annuities.	Amount Assured, exclusive of Bonuses.	Bonus Additions.	Total.	Annual Premium Income.
	No.	£	£	£	£
Australian Mutual Provident	133,823	4,705,105	17,033	4,722,138	294,522
Mutual Life and Citizens'	267,131	4,982,111	Nil.	4,982,111	278,143
Australasian Temperance and General	197,283	4,090,581	33,888	4,130,469	310,637
Colonial Mutual	68,831	1,679,615	Nil.	1,679,615	111,528
Provident Life	32,505	865,135	Nil.	865,135	48,924
Australian Metropolitan	27,722	723,465	724	724,189	41,062
People's Prudential	5,747	120,834	Nil.	120,834	8,523
Phoenix Mutual Provident	224	4,110	Nil.	4,110	306
Co-operative	3,508	93,257	Nil.	93,257	6,334
Total	726,827	17,264,213	57,645	17,321,858	1,100,879

Industrial Branch—New South Wales Business.

The following statement shows the New South Wales business in force in the industrial branch in the year 1915-16:—

Institution.	Policies in Force, exclusive of Annuities.	Amount Assured, exclusive of Bonuses.	Bonus Additions.	Total.	Annual Premium Income.
	No.	£	£	£	£
Australian Mutual Provident Society	43,042	1,449,624	*....	1,449,624	94,862
Mutual Life and Citizens	83,091	1,563,339	Nil.	1,563,339	90,040
Australasian Temperance and General Mutual	34,847	756,633	*....	756,633	57,451
Colonial Mutual	26,714	473,996	Nil.	473,996	31,030
Provident Life	5,098	135,248	Nil.	135,248	6,648
Australian Metropolitan	15,610	411,930	410	412,390	23,112
† People's Prudential	5,747	120,834	Nil.	120,834	8,523
† Phoenix Mutual Provident	224	4,110	Nil.	4,110	306
Co-operative Assurance	3,508	93,257	Nil.	93,257	6,334
Total	211,881	5,009,021	410	5,009,431	318,306

* Not available.

† Exclusive of medical business.

Summary—Ordinary and Industrial, 1915-16.

A summary of the local business, ordinary and industrial, of the institutions operating in the State, in comparison with their total business, is

shown below. The American companies have been excluded from the total business:—

Branch.	Total Business.			Local Business.		
	Policies.	Amount Assured (excluding bonuses).	Annual Premium Income.	Policies.	Amount Assured. (excluding bonuses).	Annual Premium Income.
	No.	£	£	No.	£	£
Ordinary ...	698,011	165,306,291	5,597,870	181,671	43,520,335	1,465,317
Industrial ...	726,827	17,264,213	1,100,879	211,881	5,000,021	318,306
Total ...	1,424,838	182,570,504	6,693,749	333,552	48,529,356	1,783,653

In the ordinary branch the policies in force in New South Wales represent 26 per cent., and the amount assured 26·3 per cent. of the total business. In the industrial branch the proportions in New South Wales are—policies, 29·1 per cent.; amount assured, 29 per cent.

Local Business.

The next statement shows the ordinary and industrial business in force in New South Wales in each of the last ten years:—

Year.	Ordinary Branch.			Industrial Branch.		
	Policies.	Amount Assured.	Annual Premium Income.	Policies	Amount Assured.	Annual Premium Income.
	No.	£	£	No.	£	£
1906	123,072	30,352,302	1,000,260	104,236	2,338,987	129,662
1907	130,296	31,592,379	1,038,828	116,795	2,631,476	146,356
1908	137,852	32,993,481	1,080,236	125,476	2,881,417	155,260
1909	147,632	34,446,756	1,166,697	129,180	2,782,868	160,348
1910	155,531	35,972,590	1,164,948	143,209	3,123,666	184,607
1911	159,928	37,591,311	1,212,409	156,194	3,411,133	205,886
1912	167,399	39,652,665	1,274,797	173,941	3,918,060	238,800
1913	173,834	41,432,591	1,382,162	191,333	4,413,289	273,997
1914	178,483	42,602,910	1,432,261	202,439	4,712,117	296,597
1915-6	181,671	43,520,335	1,465,347	211,881	5,000,021	318,306

A feature of this table is the large increase in industrial insurance; since 1906 the increase in the number of these policies amounted to 103 per cent., and in the amount assured 114 per cent.

The number of ordinary and industrial policies per 1,000 of population for 1915-16 was 211, as compared with 152 in 1906, and the total sum assured rose from £21 16s. 3d. to £26 0s. 5d. per head of population, as will be seen from the figures shown hereunder:—

Year.	Policies per 1,000 of population.	Amount Assured per head of population.
	No.	£ s. d.
1906	152	21 16 3
1907	161	22 6 9
1908	169	22 19 11
1909	173	23 6 4
1910	182	23 17 4
1911	186	24 2 9
1912	192	24 9 10
1913	199	25 0 5
1914	204	25 8 2
1915-16	211	26 0 5

New Assurances in New South Wales.

The new business, ordinary and industrial, effected in New South Wales during the last two years is compared in the following table:—

Ordinary Branch.

Institution.	1914-1915.			1915-16.		
	Policies.	Amount Assured.	Annual Pre-miums.	Policies.	Amount Assured.	Annual Pre-miums.
	No.	£	£	No.	£	£
Australian Mutual Provident.. .. .	5,551	1,540,065	50,633	5,296	1,700,950	62,370
Mutual Life and Citizens'	2,901	609,440	20,611	1,743	370,770	12,877
City Mutual	922	182,225	7,949	947	204,339	9,695
Assurance and Thrift	325	57,210	2,495	337	60,470	2,720
Co-operative	277	68,825	2,832	89	16,050	730
Australian Alliance	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
National Mutual	1,595	446,880	15,657	1,299	557,998	22,969
Colonial Mutual.. .. .	1,282	237,617	9,186	1,359	267,442	10,453
Australasian Temperance and General.. .. .	1,972	230,947	9,271	2,255	237,506	9,489
Australian Metropolitan	332	34,637	1,482	279	32,116	1,280
Equitable of the United States	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Mutual of New York	31	21,300	804	1	500	28
New York	121	58,702	2,445	92	76,600	2,956
Liverpool and London and Globe	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
People's Prudential	543	51,587	2,784	928	74,212	3,955
Provident Life	114	12,400	454	120	14,025	493
Australian Provincial	992	187,775	8,197	1,216	169,925	6,975
Australian Amicable	259	172,325	7,992	15	4,200	44
Total	17,217	3,914,935	142,792	15,976	3,784,103	147,554

Industrial Branch.

Institution.	1914-1915.			1915-16.		
	Policies.	Amount Assured.	Annual Premiums.	Policies.	Amount Assured.	Annual Premiums.
	No.	£	£	No.	£	£
Australian Mutual Provident	8,279	296,106	19,577	6,940	258,785	16,793
Mutual Life and Citizens'	8,705	195,043	13,331	6,541	166,460	10,814
Co-operative Assurance	2,403	80,395	5,287	1,527	46,774	2,766
Australasian Temperance and General	11,920	292,207	24,518	12,607	310,446	26,576
Colonial Mutual	4,668	116,187	9,327	5,446	115,188	9,359
Provident Life	2,682	70,183	3,843	2,440	60,235	3,203
Australian Metropolitan	6,467	211,081	10,457	5,955	209,045	10,452
*People's Prudential	3,064	70,269	4,958	3,629	90,110	6,360
*Phoenix Mutual Provident	79	1,555	129	103	1,640	136
Total	48,267	1,332,966	91,427	45,188	1,255,683	86,959

* Exclusive of medical business.

The following is a comparison of the new business in New South Wales during the last five years:—

Year.	Ordinary Branch.			Industrial Branch.		
	Number of Policies.	Amount Assured.	Annual Premiums.	Number of Policies.	Amount Assured.	Annual Premiums.
		£	£		£	£
1911	19,831	4,093,820	140,685	54,755	1,419,167	90,364
1912	19,500	4,300,576	148,908	53,820	1,476,965	96,693
1913	19,847	4,414,664	156,078	55,384	1,506,470	102,016
1914-15	17,217	3,914,935	142,792	48,267	1,332,966	91,427
1915-16	15,976	3,784,103	147,554	45,188	1,258,683	86,959

The decrease since 1913 is due to the war, as the number of males who would be likely to insure was greatly depleted owing to enlistments, and the companies confined their operations chiefly to lives which would not be liable to war risks. However, the average insurance per policy and annual premium per £100 have been well maintained. Thus, in 1913, for the ordinary branch the average policy was £222, and the annual premium per £100 averaged £3 10s. 8d., while in 1915-16 the corresponding figures were £237 and £3 18s. In the industrial department the average amount per policy was the same for both periods, viz., slightly over £27, and the average weekly premium ranged from 2s. 7d. to 2s. 8d. per £100.

Receipts and Expenditure—Australasian Societies.

The receipts of the societies are represented chiefly by the collections from premiums on policies and by interest arising from investments. Payments on account of death claims, policies matured and surrendered, cash bonuses, and expenses of management, constitute the bulk of the disbursements, and the excess of receipts over expenditure represents the additions to the funds.

The general direction of the total business of the Australasian societies is shown in the following table, which includes both ordinary and industrial departments:—

Year.	Societies.	Policies in Force.	Receipts.	Expenditure.	Addition to Funds.
	No.	No.	£	£	£
1895	10	268,242	3,392,423	2,334,481	1,057,942
1900	11	331,868	4,093,376	2,648,303	1,445,073
1905	14	756,585	5,437,589	3,834,272	1,603,317
1910	11	1,056,173	7,131,250	4,619,440	2,511,810
1911	11	1,138,955	7,650,230	4,875,974	2,774,256
1912	14	1,228,104	8,152,303	5,214,022	2,938,371
1913	14	1,312,696	8,572,977	5,358,192	3,214,785
1914-15	15	1,375,633	9,069,130	5,757,737	3,311,393
1915-16	15	1,424,838	9,474,126	6,084,562	3,389,564

The aggregate receipts and disbursements for the Australasian institutions for 1915-16 were as follow, ordinary and industrial branches being shown separately, except in the cases of two companies (the Co-operative and the People's Prudential), which did not keep the accounts of each branch separately, and the figures relating to the industrial department have therefore been included in the ordinary branch:—

	Ordinary Branch.	Industrial Branch.	Total.
	£	£	£
Receipts—			
Premiums—			
New	556,072	4,275	560,347
Renewal	4,974,588	1,010,248	5,984,836
Consideration for Annuities...	46,389	...	46,389
Interest	2,630,708	131,869	2,762,577
Other (Rents, &c.)	110,985	8,992	119,977
Total Receipts	8,318,742	1,155,384	9,474,126
Expenditure—			
Claims	3,581,332	198,653	3,779,985
Surrenders	609,734	18,357	628,091
Annuities	123,023	100	123,123
Cash Bonuses and Dividends	172,637	50,394	223,031
Expenses	858,168	394,271	1,252,439
Amount written off to Depreciation, Reserves, &c.	67,343	10,550	77,893
Total Expenditure	5,412,237	672,325	6,084,562

The following table shows the revenue and expenditure of the New South Wales business only for the year 1915-16. The particulars relating to the ordinary and industrial departments are separated (with the exception mentioned above), and the transactions of the American companies have been included, in order to give the total for the State:—

	Ordinary Branch.	Industrial Branch.	Total
	£	£	£
Receipts—			
Premiums—			
New	140,999	1,538	142,537
Renewal	1,326,702	285,334	1,612,036
Consideration for Annuities	14,825	...	14,825
Interest	930,919	51,597	982,516
Other (Rents, &c.)	62,647	3,713	66,360
Total Receipts	2,476,092	342,182	2,818,274
Expenditure—			
Claims	1,001,810	61,563	1,063,373
Surrenders	189,329	4,601	193,930
Annuities	30,717	100	30,817
Cash Bonuses and Dividends	92,155	15,200	107,355
Expenses	242,952	104,838	347,790
Amount written off to Depreciation, Reserves, &c.	32,612	2,777	35,389
Total Expenditure	1,589,575	189,079	1,778,654

Accumulated Funds—Australasian Societies.

The additions to the funds from year to year have shown a considerable increase. The amount of funds and the interest received thereon were as follows:—

Year.	Accumulated Funds.		Interest.	
	Additions during year.	Total Amount.	Amount received.	Average Rate realised on Mean Funds.
	£	£	£	per cent.
1890	1,404,215	14,580,210	827,909	5·97
1895	1,057,942	20,438,224	1,037,477	5·21
1900	1,445,073	26,491,025	1,161,696	4·51
1905	1,603,317	34,915,842	1,527,690	4·48
1910	2,511,810	45,668,204	1,963,425	4·42
1911	2,774,256	48,511,274	2,111,417	4·48
1912	2,938,371	51,497,036	2,261,970	4·52
1913	3,214,785	54,955,221	2,438,543	4·58
1914-15	3,311,393	58,051,229	2,573,496	4·55
1915-16	3,389,564	61,572,309	2,762,577	4·62

The decrease in earning power during the period reviewed is noticeable; but since 1900 the rate has been very constant at about $4\frac{1}{2}$ per cent. A comparison with the bank rate of interest on fixed deposits, given on a previous page, shows that diminished rates were general until the year 1912, when a slight increase took place, and the bank rates were further increased in the following years. The interest earned by the insurance companies has, therefore been in steady proportion to the general tendency.

Expenses of Management—Australasian Societies.

The expenses of management for 1915-16 in the aggregate represent 13·22 per cent. of total receipts, or 19·00 per cent. of premium income. The ratio between management expenses and premium income must necessarily vary with the volume of new business transacted and the age of the society, quite apart from the intensity of competition for new business. The following figures show the cost of management, including commission, and the proportion of premium income and gross receipts, ordinary and industrial departments being included:—

Year.	Management Expenses.	Premium Income.	Gross Receipts.	Management Expenses.	
				Per cent. of—	
				Premium Income	Gross Receipts.
	£	£	£		
1895	438,524	2,380,167	3,392,423	18·42	12·93
1900	565,380	2,799,512	4,093,376	20·19	13·81
1905	858,741	3,500,448	5,437,589	24·53	15·79
1910	1,016,153	5,074,204	7,131,250	20·03	14·25
1911	1,137,165	5,417,202	7,650,230	20·99	14·86
1912	1,255,464	5,812,581	8,152,393	21·60	15·40
1913	1,259,057	6,152,728	8,572,977	20·46	14·69
1914-15	1,281,851	6,376,445	9,069,130	20·10	14·13
1915-16	1,252,438	6,591,572	9,474,126	19·00	13·22

The management expenses of the ordinary and industrial branches can be stated separately for the years 1914-15 and 1915-16, and the proportions are shown in the following table:—

Year.	Ordinary Branch.		Industrial Branch.	
	Proportion of Management Expenses to—			
	Premium Income.	Total Receipts.	Premium Income.	Total Receipts.
	per cent.	per cent.	per cent.	per cent.
1914-15	16·35	11·09	41·85	37·30
1915-16	15·39	10·32	38·86	34·12

The expenses of the industrial branch are necessarily very high in proportion to the receipts, on account of the house-to-house method of collection, which is an essential feature of the system.

Liabilities and Assets—Australasian Societies.

The following table gives a summary of the liabilities and assets of the Australasian Societies for the year 1915-16:—

Liabilities.		Assets.	
Assurance Funds—		Loans—	
	£		£
Participating ...	59,127,430	On Mortgage ...	25,647,947
Non-participating ...	912,013	„ Municipal and other	
Claims Investment Fund ...	11,567	local rates ...	19,466,816
Other Funds ...	822,995	„ Reversionary, Life, and	
		other interests... ..	556,709
Total ...	60,874,005	„ Policies	8,034,504
		„ Personal Security ...	18,658
		„ Government Securities..	22,360
		„ Other Debentures and	
		Bonds	709,130
		„ Miscellaneous Loans ...	79,668
		Total	45,535,992
Fidelity Guarantee Funds ...	6,622		
Investment Fluctuation Fund	137,252		
Claims admitted but not paid			
(including Annuities) ...	863,265		
Outstanding Accounts... ..	76,910		
Other Liabilities—			
Paid-up Capital	385,099		
Reserve Funds	134,777		
Miscellaneous	713,407		
		Government Securities—	
		British Stocks	69,645
		New South Wales Stocks ...	2,103,903
		Other Commonwealth	
		Stocks	5,899,290
		New Zealand Stocks	2,271,838
		Other Government Securities	701,038
		Total	11,045,712
		Real Estate—	
		Office Premises—	
		New South Wales	643,207
		Other Australian States	1,255,194
		Elsewhere	583,583
		Properties acquired by Fore-	
		closure and other Real	
		Estate	559,006
		Total Real Estate..	3,040,990
		Outstanding and Deferred	
		Premiums	702,141
		Accrued and Outstanding	
		Interest... ..	690,808
		Cash in Banks and in hand	1,596,371
		Other Assets	579,323
Total Liabilities...	£63,191,337	Total Assets	£ 63,191,337

The aggregate liabilities and assets for the period 1895 to 1916 are shown in the subjoined table. The accounts of three companies have not been

included, as the balance-sheets do not disclose the particulars of the life business, which, however, is small compared with the total operations:—

Year.	Societies.	Liabilities.			Assets.		
		Paid-up Capital and Accumulated Funds.	Other Liabilities.	Total.	Loans on Mortgages, Policies, &c.	Securities, Freehold Property, &c.	Total.
	No.	£	£	£	£	£	£
1895	10	21,497,059	.....	21,497,059	15,600,229	5,896,830	21,497,059
1900	11	27,471,223	.....	27,471,223	19,013,579	8,457,644	27,471,223
1905	14	35,867,362	.....	35,867,362	22,072,061	13,795,301	35,867,362
1910	11	45,668,204	775,785	46,443,989	30,625,778	15,818,211	46,443,989
1911	11	48,511,274	762,155	49,273,429	33,115,573	16,157,856	49,273,429
1912	14	51,497,036	954,992	52,452,028	35,063,109	17,388,919	52,452,028
1913	14	54,955,221	821,591	55,776,812	37,305,102	18,471,710	55,776,812
1914-15	13	57,775,670	1,112,766	58,888,436	42,525,480	16,362,956	58,888,436
1915-16	14	61,259,104	1,932,233	63,191,337	45,535,992	17,655,345	63,191,337

Loans on mortgage, municipal rates, and the policies of the societies represent 72 per cent. of the total assets. In former years insurance companies sought only these forms of investment, but recently attention has been given to Government securities and investments in shares, and considerable sums are deposited with banks, or invested in freehold and leasehold property, and during the years 1915 and 1916 large sums have been subscribed to the various War Loans. Investments on personal security are unusual, advances being generally combined with life policies, and the total amount invested under this heading for the year 1915-16 was only £18,858. In some of the States, companies are obliged by law to deposit certain sums with the Treasury as a guarantee of good faith, and these amounts are included in their balance-sheets, under the head of Government securities, or of deposits. The ratio of loans on mortgages, policies, &c., to total assets for the years quoted in the previous table is as follows:—

Year.	per cent.	Year.	per cent.
1895 ...	72.57	1912 ...	66.85
1900 ...	69.21	1913 ...	66.88
1905 ...	61.54	1914-15 ...	72.25
1910 ...	65.94	1915-16 ...	72.06
1911 ...	67.21		

FIRE, MARINE, AND GENERAL INSURANCE.

The Fire Brigades Act, 1909, embraces a wider area than the earlier Act, which covered only the metropolitan area of Sydney, though it was permissible to extend its provisions to any borough or municipal district of New South Wales. The existing Act applies to the city of Sydney, 126 suburban and country municipalities, and 16 townships and shires, grouped in 76 Fire Districts. By proclamation the provisions of the Act may be extended to other areas.

BOARD OF FIRE COMMISSIONERS.

The Board of Fire Commissioners of New South Wales, representing the city and suburban area, the country area, the volunteer brigades, and the insurance companies, with a President appointed by the Government, exercises control in regard to fire prevention in declared districts, and may recover charges for attendance at fires outside such districts. On the passing of the Fire Brigades Act, 1909, all existing Fire Brigades' Boards

were dissolved, and their property was vested in the Board of Fire Commissioners, subject to any trusts and liabilities attaching to such property. The Board is charged with the establishment and maintenance of permanent fire brigades, and the authorisation and subsidising of volunteer brigades, for which purpose the funds are raised by contributions of one-third each of estimated requirements for each district by insurance companies, municipalities, and the Government; and a *pro rata* contribution is charged against each owner of property assured in any company, as defined, which is not registered within the State. To ensure efficient operation of these provisions, returns are required periodically by the Board from municipalities, insurance companies, and property owners.

The following table shows the revenue account and balance-sheet for the year ended 31st December, 1916:—

Revenue Account, 1916.

Revenue.				Expenditure.			
£				£			
Balance from 1915 ...	...	...	15,286	Administration ...	...	...	6,010
Subsidy from Government ...	...	...	41,580	Salaries—Permanent ...	...	...	66,901
Subsidy from Municipalities and Shires ...	...	...	41,605	Salaries—Volunteer ...	...	...	9,516
Subsidy from Fire Insurance Companies and Firms ...	...	...	41,580	Buildings, repairs and alterations	...	...	5,959
Other Sources—				Clothing ...	...	...	4,505
Services rendered	£2,266			Electrical work, telephones, fire alarms, &c. ...	...	...	2,053
Sale of materials	649			Horses, fodder, harness, &c. ...	...	...	4,824
		2,915		Lighting and fuel ...	...	...	1,862
				Miscellaneous ...	...	...	29,658
				Balance ...	...	...	11,676
Total ...	...	...	142,966	Total ...	...	...	142,966

Balance-sheet, 1916.

Liabilities.				Assets.			
£				£			
Fund Account ...	...	...	54,791	Lands and buildings ...	...	...	118,306
Debentures and accrued interest...	...	...	101,500	Plant, stocks on hand, &c. ...	...	...	86,241
Revenue Account ...	...	...	11,676	Bank balance and cash ...	...	...	14,113
Other... ..	...	...	1,301				
Property and Equipment Fund ...	...	...	49,392				
Total... ..	...	...	218,660	Total ...	...	...	218,660

The estimates of necessary revenue adopted by the Board for 1917 amounted to £142,743, being £102,849 for Sydney Fire District, and £39,894 for the seventy-five Country Fire Districts. The ratio of municipal contributions to the Assessed Annual Value in Sydney, suburbs, and shires included in the Sydney Fire District was 7s. per £100 in 1914, 5s. 9d. per £100 in 1915, 5s. 5d. in 1916, and 6s. 1d. in 1917.

Under the Act the contributions payable by insurance companies are proportionate to the premiums received by or due to the companies during the year; for 1916 contributions amounting to £41,372 were received from 84 insurance companies, and in addition contributions amounting to £208 were received from 66 individual firms who insured goods with companies not registered in New South Wales. The contributions in the Sydney Fire District in 1916 represent £5 16s. 3d. per £100 of premium, and in the remaining districts the percentage ranged from £2 13s. 4d. to £20 4s. 0d.

GENERAL INSURANCE—TOTAL BUSINESS.

There were 74 companies transacting general insurance business in New South Wales during 1915. The following statement shows the classification of the revenue and expenditure of the total business for the year 1914-15, this being the latest available, as returns were not collected during the following year owing to the shortage of office staffs, due to enlistments. The premiums and losses are exclusive of re-insurances:—

Revenue.				Expenditure.			
£				£			
Premiums	...	...	61,179,636	Losses	...	...	34,408,009
Interest...	...	...	3,835,124	Dividends	...	...	3,874,213
Rent, fees, &c....	...	...	1,360,827	Management—			
				Commission	...	...	8,522,646
				Salaries, fees, &c.	...	...	10,866,535
				Taxes...	...	...	1,010,979
				Total Management	...	...	20,400,160
				Transfers	...	...	7,246,825
				Depreciation	...	...	1,406,248
				Other	...	...	559,958
Total	...	...	£66,375,587	Total	...	...	£67,895,413

The total premiums received during 1914-5 were £61,179,636, and the losses amounted to £34,408,000, or 56.24 per cent. of the premiums. The expenses, including taxes and depreciation, &c., amounted to £22,366,366, which was 36.56 per cent. of the premium income, and 33.69 of the total income.

Liabilities and Assets.

The liabilities consist mainly of shareholders' capital, reserve funds, insurance funds, and miscellaneous items, such as outstanding losses, sundry debtors, &c. The assets comprise investments on mortgage, Government securities, landed property, deposits in banks, and smaller items.

The particulars of the balance-sheets for the year 1914-15 are shown in the subjoined statement:—

Liabilities.				Assets.			
£				£			
Paid-up Capital	...	...	15,552,901	Loans on Mortgage	...	...	17,138,629
Reserve Funds...	...	...	20,583,506	Other Loans	...	...	8,286,778
Reserve for Unearned Premiums	...	...	10,800,689	Investments—			
Insurance Funds	...	...	84,193,540	Government Securities	...	...	19,453,379
Other Funds	...	...	17,933,474	Municipal and Other Debentures and Stocks	...	...	81,246,579
Outstanding Losses	...	...	7,637,747	Land and House Property	...	...	17,509,371
Miscellaneous Liabilities	...	...	16,364,344	Cash on Deposit and in hand...	...	...	9,419,902
				Miscellaneous Assets (outstanding premiums, agents' balances, sundry creditors, balance of profit and loss, &c.)	...	...	20,011,563
Total	...	...	£173,066,201	Total	...	...	£173,066,201

New South Wales Business.

The particulars relating to the General insurance business transacted in New South Wales during 1915-16 are shown in the table below:—

Nature of Insurance.	Revenue in New South Wales.	Expenditure in New South Wales.						
		Losses, less Re-insurances.	Expenses of Management.		Total.	Proportion of Premium Income.		
			Commission and Agents' Charges.	Other.		Losses.	Commission and Agents' Charges.	Other Management Expenses.
	£	£	£	£	£	P. cent.	P. cent.	P. cent.
Fire	973,134	452,549	137,596	262,099	852,244	46.50	14.14	20.93
Marine	350,091	163,271	20,969	58,009	242,249	46.64	5.99	16.56
Accident	50,139	22,209	8,759	13,245	44,213	44.29	17.47	26.42
Employers' Liability and Workman's Compensation ..	105,849	34,286	14,629	39,701	78,616	23.39	13.82	28.06
Public Risk, Third Party ..	14,685	4,276	2,089	4,190	10,555	29.11	14.22	28.53
Plate-glass	17,205	7,645	2,630	4,515	14,790	44.43	15.29	26.24
Motor Car and Motor Cycle ..	20,415	11,136	3,878	7,733	22,747	36.61	12.76	25.42
Hailstone	63,945	17,997	10,241	15,428	43,666	28.14	16.01	24.13
Boiler Explosion	2,108	641	263	1,367	2,271	39.41	12.48	64.85
Live Stock	25,909	19,148	4,037	6,810	23,995	73.90	15.58	26.23
Burglary	5,800	1,957	928	1,425	4,370	33.74	16.00	24.67
Guarantee	9,357	1,410	1,203	2,118	4,731	15.07	12.85	22.63
Loss of Profits	19,422	3,393	1,002	3,052	8,347	17.47	9.79	15.71
Elevator	276	..	73	34	107	..	28.45	12.32
Driver's Indemnity	29	..	3	..	9	..	10.34	20.63
Baggage	6	..	1	1	2	..	16.67	16.67
Sprinkler	752	129	66	144	339	17.15	8.77	19.15
Other Unspecified	12	17	..	7	24	141.67	..	58.33
Total Premiums	1,669,137	..	..	..	..	..	..	..
Total Interest	49,600	..	..	..	..	..	..	..
Total	1,718,737	740,064	209,267	409,884	1,359,215	44.34	12.54	24.56

The total premiums amounted to £1,669,137, and the losses to £740,064, the latter being 44.34 per cent. of the premiums. The expenses for commission and agents' charges were £209,267, and for general management £409,884, making a total of £619,151, being 37.10 per cent. of the premium income, or 36.02 of the gross revenue.

According to the local statements, fire business comprises about 58 per cent. of the total general insurances. The premiums received for fire risks during 1915-16 were £973,134, and the losses amounted to £452,549, or 46.5 per cent. It will thus be seen that losses under some of the other branches were proportionately much below those incurred in the Fire Department.

The next table shows the total revenue and expenditure during the two years 1914-15 and 1915-16. The transactions of the fire branch have been shown separately, as they comprise about 60 per cent. of the total business. The interest receipts cannot be distributed under the various headings, and they have, therefore, been included in one item:—

Year.	Revenue.			Expenditure.			
	Premiums.	Interest.	Total.	Losses.	Management.		Total Expenditure.
					Commission and Agents' Charges.	Other Management Expenses.	
	£	£	£	£	£	£	£
1914-15 { Fire ...	856,009	54,308	1,492,131	662,381	120,508	247,423	1,030,312
Other ...	581,814			224,650	59,820	135,590	420,060
Total ...	1,437,823			887,031	180,328	383,013	1,450,372
1915-16 { Fire ...	973,134	49,600	1,718,737	452,549	137,596	262,099	852,244
Other ...	696,003			287,515	71,671	147,785	506,971
Total ...	1,669,137			740,064	209,267	409,884	1,359,215

In the following statement, the proportion of expenditure to premium income for the two years specified above is given, the Fire Department being again shown separately:—

Year.	Losses.	Management.		Total Expenditure.	
		Commision and Agents' Charges.	Other Management Expenses.		
	per cent.	per cent.	per cent.	per cent.	
1914-15	{ Fire ...	77.38	14.08	28.90	120.36
	{ Other ...	38.63	10.28	23.30	72.18
	{ Total ...	61.69	12.54	26.64	100.87
1915-16	{ Fire ...	46.50	14.14	26.93	87.57
	{ Other ...	41.31	10.29	21.23	72.83
	{ Total ...	44.34	12.54	24.56	81.44

BANKRUPTCY.

Transactions in insolvency were conducted by the Chief Commissioner of Insolvent Estates prior to 1888, but under the Bankruptcy Act of 1887, and subsequent amending Acts, which were consolidated under the Act of 1898, the law is now administered by a Supreme Court Judge in Bankruptcy. The following statement shows the number of bankruptcy petitions for each of the last ten years:—

Year.	Petitions in Bankruptcy.			Petitions withdrawn, refused, &c.	Sequestration Orders granted.
	Voluntary.	Compulsory.	Total.		
1906	337	91	428	22	406
1907	256	111	367	34	333
1908	272	84	356	24	332
1909	297	84	381	15	366
1910	255	97	352	27	325
1911	213	118	331	39	292
1912	283	112	395	36	359
1913	238	113	351	31	320
1914	282	123	405	30	375
1915	301	147	448	43	405

The estates freed from sequestration during the currency of the Act number 3,152, being 16 per cent. of the total sequestrations. Occasionally applications made for certificates are refused, and taking these into consideration, it would appear that out of 100 bankrupts, 84 are unable, or too indifferent, to take the necessary steps to free themselves from bankruptcy. The property of an uncertificated bankrupt, even if acquired subsequently to sequestration, is liable to seizure on behalf of unsatisfied creditors. The number of sequestrations for the years the Act has been in force is 19,687, and of these 16,535 remain uncertificated.

During 1915, of a total of 405 sequestrations, the liabilities, according to bankrupts' schedules, were £428,700, and the assets amounted to £166,748. The qualification "according to bankrupts' schedules" is necessary, as the assets and liabilities established after investigation by the Court differ widely from those furnished by bankrupts.

The following statement shows the number of bankruptcies and the nominal liabilities and assets from 1888 to 1915:—

Period.	Sequestrations.	Nominal—		
		Liabilities.	Assets.	Ratio of Asset per £1 of Liability.
	No.	£	£	s. d.
1888-1892	5,730	5,682,689	2,644,382	9 4
1893-1897	6,235	5,760,282	3,406,148	11 10
1898-1902	2,864	2,159,659	994,803	9 3
1903-1907	2,084	1,359,121	781,108	11 6
1908-1912	1,674	986,970	590,470	12 0
1913	320	208,755	144,038	13 10
1914	375	323,111	141,068	8 9
1915	405	428,700	163,748	7 10

The dividend rates paid on the amount of proved liabilities of estates which have been wound-up are not given, as it would involve an investigation of the transactions in each estate; and even this operation would not result in complete returns, as there are estates which remain unsettled during many years.

Official assignees assist the Court in winding-up the estates, each paying all money received by him to the Registrar in Bankruptcy, who places the amount to the credit of the Bankruptcy Estates Account, from which all charges, fees, and dividends are met. The official assignees are required to furnish quarterly and half-yearly statements of the transactions in each estate.

TRANSACTIONS IN REAL ESTATE.

The Real Property Act, commonly known as "Torrens Act," passed in 1862 to regulate the procedure in regard to land transfers, was modelled on the lines of legislation in South Australia, adopted at the instance of Sir R. R. Torrens. This Act and its amendments were consolidated in 1900. The main features of the Act are the transfer of real property by registration of title instead of deeds; the absolute indefeasibility of the title when registered; and the protection afforded to owners against possessory claims, as a title issued under the Act stands good notwithstanding any length of adverse possession. From the passing of "Torrens" Act, all lands sold by the Crown have been conveyed to the purchasers under its provisions, the transactions under the old law being restricted to grants issued prior to 1862, and governed by the Deeds Registration Act. The area for which such grants were issued was 7,478,794 acres; of these, 2,295,161 acres have since been brought under the provisions of "Torrens" Act, so that the area still held under the earlier Act is 5,183,633 acres.

Lands may be placed under the Real Property or "Torrens" Act only when the titles are unexceptional; and as thousands of acres are brought under the Act during the course of every year, it is merely a question of time when the whole of the lands of the State will be under a uniform

system. The areas of Crown lands conveyed, and of private lands brought under the Real Property Act during the decade ended 1915, were as follows:—

Year.	Area.			Value.		
	Crown Lands.	Private Lands.	Total.	Crown Lands.	Private Lands.	Total.
	acres.	acres.	acres.	£	£	£
1906	1,743,210	98,722	1,841,932	1,486,489	968,449	2,454,938
1907	1,750,597	54,205	1,804,802	1,552,049	1,349,351	2,901,400
1908	1,604,062	85,917	1,689,979	1,502,640	1,173,042	2,675,682
1909	1,227,312	54,903	1,282,215	1,147,768	1,093,796	2,241,564
1910	864,857	74,986	939,843	775,211	1,300,661	2,075,872
1911	820,728	79,778	900,506	769,723	1,438,238	2,257,961
1912	749,076	60,541	809,617	725,011	1,771,354	2,496,365
1913	458,651	64,297	522,948	438,243	1,338,091	1,776,334
1914	424,617	46,391	471,008	397,855	1,199,817	1,597,672
1915	354,268	36,188	390,456	317,208	948,820	1,266,028

For the whole period during which the "Torrens" system has been in operation, 35,499,959 acres, valued at £35,245,395, have been conveyed under its provisions; and 2,295,161 acres, valued at £40,450,079, have been brought under it, the deeds under the old Act having been cancelled.

The transfers and conveyances of private lands which take place during ordinary years show approximately the condition of business in real estate. In the following table, which covers ten years, the money consideration paid on sales of private lands during each year is shown, excluding lands sold on long terms:—

Year.	Conveyances or Transfers.		
	Under Deeds Registration Act.	Under Real Property (Torrens) Act.	Total.
	£	£	£
1906	2,820,456	7,346,558	10,167,014
1907	3,342,526	9,366,063	12,708,589
1908	2,879,955	9,880,177	12,760,132
1909	2,312,529	9,416,875	11,729,404
1910	4,057,760	11,958,783	16,016,543
1911	4,602,322	16,425,982	21,028,304
1912	5,502,502	18,379,970	23,882,472
1913	4,725,865	16,078,926	20,804,791
1914	3,612,722	16,585,718	20,198,440
1915	3,153,485	11,849,972	15,003,457

As already mentioned, the Real Property Act provides that on the issue of a certificate the title of the person named on the certificate is indefeasible. Provision is made, however, for error in transfer, by which persons might be deprived of their property; as, should the transfer be made to the wrong person, the holder of the certificate cannot be dispossessed of his property unless he has acted fraudulently. To enable the Government to compensate persons who, through error, may have been deprived of their properties, an assurance fund was created by means of a contribution of one halfpenny in the pound on the declared capital value of property when first brought under the Act, and upon transmission of titles of estates of deceased proprietors. It is a sterling testimony of the value of the Act, and of the facility and accuracy of its working, that payments from the assurance fund to 31st December, 1907, in respect of titles improperly granted, amounted to

£16,326 only. In 1907 the assurance fund, as a separate account, was closed, and the amount at credit, £255,059, was transferred to the Closer Settlement Account in accordance with the provisions of section 6 of the Public Works and Closer Settlement Funds Act, 1906, and all assurance contributions under section 119 of the Real Property Act, 1900, and claims for compensation, are now dealt with under the Closer Settlement Act.

MORTGAGES.

All mortgages, except those regulated by the Bills of Sale Act of 1898 and the Merchant Shipping Act of 1894, are registered at the Registrar-General's office, and it is a fair assumption that the number recorded represents the bulk of the mortgages effected. Where more than one mortgage has been effected on the same property, the mortgages take priority according to the time or registration, instead of the respective dates of the instruments.

The amount of consideration for which a mortgage stands as security is not always stated in the deeds, the words "valuable consideration" or "cash credit" being inserted instead of a specific sum in many of the transactions of banks and other loan institutions, in cases where the advances made are liable to fluctuation; and as this frequently occurs when the property mortgaged is of great value, an exact statement of the total advances against mortgages cannot be given.

Consequently the figures in the tables given below relate only to cases in which a specific amount is stated in the deeds, whether that amount be the sum actually advanced or not. The same remark applies also to discharges, the amount of which, as shown in the tables, is still further reduced by the exclusion of mortgages which have been satisfied by foreclosure or seizure, a record of which is not available. Many mortgages, therefore, appear in the official records as current, although the property which they represent has passed away from the mortgagor.

MORTGAGES OF REAL ESTATE.

Mortgages of land are registered under either the Deeds Registration Act or the Real Property Act, according to the Act under which the title of the property stood at the date of mortgage. The mortgages registered for each of the five years ended 1915 were:—

Year.	Mortgages.			Consideration.		
	Under Deeds Registration Act.	Under Real Property Act.	Total.	Under Deeds Registration Act.	Under Real Property Act.	Total.
	No.	No.	No.	£	£	£
1911	5,818	13,042	18,860	8,137,625	13,580,750	21,718,375
1912	6,846	15,766	22,612	9,537,888	16,424,624	25,962,512
1913	6,435	16,939	23,374	8,243,929	14,964,433	23,208,362
1914	5,071	17,834	22,905	4,769,337	15,905,411	20,674,748
1915	4,149	16,524	20,673	3,466,295	12,583,455	16,049,750

The consideration given generally represents the principal owing; in some cases, however, it stands for the limit within which clients of banks and of other loan institutions are entitled to draw.

The amount of mortgages discharged has always been much less than the amount registered, since the discharges do not include foreclosures, which, if not formally registered as discharges, are nevertheless mortgages cancelled. The volume of the releases is also reduced by mortgages paid off in instalments, as the discharges may be given for the last sum paid, which might happen to bear a very small proportion to the total sum borrowed; and further, the total of discharges is reduced owing to the practice, now largely followed, of allowing mortgages maturing on fixed dates to be extended for an indefinite period.

MORTGAGES ON LIVE STOCK, WOOL, AND CROPS.

Liens on wool, mortgages on live stock, and liens on growing crops are registered under special Acts, the first two under a temporary measure passed in 1847, which was continued from time to time and became permanent by a special enactment in 1860, and the liens on growing crops under the law of 1862, all which enactments are consolidated with Liens on Crops and Wool and Stock Mortgages Act, 1898. Mortgages on live stock are current till discharge, and liens on wool mature at the end of each season, terminating without formal discharge. The duration of liens on agricultural and horticultural produce may not exceed one year. Such advances do not usually reach large sums, either individually or in the total, as there is an element of uncertainty in the security offered. Mortgages are valid without delivery of the stock or crops to the mortgagees.

The figures relating to live stock throw considerable light on the condition of the pastoral industry of the country. They must, however, be taken with this qualification, that the amount stated represents in many cases merely nominal indebtedness. In the following table, amounts secured both by lien on the wool and by mortgage of the sheep, are included under both heads; the amount so secured in 1915 was £99,311, so that the net amount lent on lien was £399,138:—

Classification.	1911.	1912.	1913.	1914.	1915.
Wool—					
Liens No.	1,452	1,416	1,387	1,134	895
Sheep „	3,010,173	2,856,691	2,850,894	2,433,986	3,052,642
Consideration ... £	658,517	575,413	801,551	620,600	498,449
Growing Crops—					
Liens No.	786	953	1,438	1,270	4,464
Consideration ... £	111,904	158,182	233,665	204,020	609,067
Live Stock—					
Mortgages No.	3,265	3,166	2,749	3,205	3,074
Sheep „	3,395,547	2,882,917	2,313,922	3,711,843	2,389,029
Cattle „	149,131	117,874	81,016	73,682	59,085
Horses „	24,224	24,382	19,282	26,617	26,364
Consideration ... £	1,133,489	1,228,065	1,313,171	1,418,298	1,112,655

DISCHARGES OF MORTGAGES ON LIVE STOCK.

The number of discharges registered amounted to 25 per cent. of the number of mortgages of live stock registered during 1915; the difference is partly due to the fact that in many cases one discharge covers several mortgages. The figures for the ten years ended 1915 were:—

Year.	Dis- charges.	Amount.	Year.	Dis- charges.	Amount.
	No.	£		No.	£
1906	768	1,184,201	1911	1,091	1,144,461
1907	914	1,236,705	1912	1,064	623,539
1903	873	838,609	1913	940	641,037
1909	912	684,714	1914	961	228,410
1910	1,038	1,232,079	1915	780	482,216

MORTGAGES ON SHIPS.

Mortgages of registered British vessels are arranged under the Imperial Merchant Shipping Act of 1894. The mortgages are divided into two classes, one in which the ship is the sole security, and the other in which the advances are made on the security of the "account current," which may consist of ships, wharfage appliances, land, and other properties. Registrations are effected at the two ports of registry, Sydney and Newcastle; and the returns are given in the subjoined statement:—

Year.	Mortgage on Ships only.				Mortgage on Account Current.			
	Sailing Vessels.		Steam and Motor Vessels.		Sailing Vessels.		Steam and Motor Vessels.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£
1909	11	1,832	12	19,500	5	2,363	8	10,504
1910	...	.....	18	37,320	1	*	1	*
1911	1	245	15	21,350	1	1	18	6,213
1912	1	600	30	124,129	1	1	10 ² / ₄	11
1913	4	1,600	15	14,934	2	501	5	148
†1915	...	.....	8	14,113	...	.....	2	126
†1916	1	100	8	6,291	1	1	7	2,655

* Information not available.

† Year ended 30th June.

BILLS OF SALE.

All mortgages on personalty other than ships and shipping appliances, wool, live stock, and growing crops, are filed at the Supreme Court under the Bills of Sale Act, 1855, and its amendments, as consolidated by the Bills of Sale Act, 1898, which was further amended in 1903 to secure that a bill of sale shall be ineffective as to certain household furniture unless the consent of the wife or husband of the maker or giver of the bill is endorsed thereon. The Act provides that each document shall be filed within thirty days after it is made or given, otherwise the transaction is void as against execution creditors, and against the official assignee or trustee of a bankrupt estate; also that the registration shall be renewed every twelve months; and to prevent fraud and imposition, the records are open to the inspection of the public. The total amount of advances made annually on the bills of sale is not readily available; but according to the number of bills filed, the sum must be considerable. No complete record is made of the bills terminated voluntarily or by seizure, the official records showing only those

discharged in the ordinary way. Seizures of the security given, which generally consists of household furniture and stock-in-trade, are frequent, and it is to be regretted that no record of them is kept; but, as previously stated, the neglect in the registration of foreclosures is a weakness in the procedure under all Acts regulating mortgage transactions. The bills filed and the discharges registered for the five years ended 1915 are as follow:—

Year.	Registrations.		Renewals under Bills of Sale Act of 1898.
	Filed in Supreme Court.	Satisfied or orders for discharge made.	
1911	2,430	352	1,689
1912	2,861	370	1,748
1913	3,058	385	2,015
1914	3,194	402	2,179
1915	2,931	302	2,482

REGISTRATION OF MONEY-LENDERS.

Under the Money-lenders and Infants Loans Act, 1905, money-lenders must be registered at the Registrar-General's Office, and may conduct their business only under their own or firm names, and at their registered offices. The expression "money-lender" includes every person or company whose business is that of money-lending, but excludes licensed pawnbrokers, registered friendly societies, institutions incorporated by special Act of Parliament to lend money, and banking and insurance companies. The number of registrations and renewals during the year 1916 was 36.

DISTRIBUTION OF PROPERTY.

In making estimates of the wealth of a country, the probate value of estates has frequently been taken as a basis of the calculations. This is unsatisfactory, as the probate returns give only the gross value of property left by deceased persons, irrespective of debts. The valuations of estates for stamp duty purposes, however, represent the net values, and have been used in the compilation of the following particulars regarding estates of deceased persons.

It is sometimes assumed that the average amount of property left by each adult who dies during a given period represents the average possessed by each living adult, but that assumption is open to two objections. First, the average age of adults who die is greater than of those still surviving; and, secondly, the wealth of an individual increases with years, and generally is greater at death than at any period during life.

A table is annexed showing the number of estates and amount on which stamp duty was paid during the ten years ended 30th June, 1916. The figures for the five years ended June, 1911, are exclusive of estates administered by the Curator of Intestate Estates, for which particulars are not available:—

Year ended 30th June.	Estates.	Amount.	Year ended 30th June.	Estates.	Amount.
	No.	£		No.	£
1907	2,797	6,400,392	1912	4,372	13,445,639
1908	3,172	6,655,673	1913	4,749	8,509,070
1909	3,239	7,215,018	1914	4,631	10,439,256
1910	3,187	10,417,169	1915	4,438	9,997,615
1911	3,303	7,827,275	1916	5,107	10,783,406

According to these figures, stamp duty was paid during the ten years ended 30th June, 1916, on 38,995 estates, valued at £91,690,513. This gives an average value per estate of £2,351.

The next table shows in various age groups the number and value of estates of deceased persons of each sex in respect of which probate was granted during the five years 1911-15; the values given represent the net values of estates for stamp duty purposes:—

Age Group.	Males.				Females.			
	Estates.	Value of Estates.	Average Value—		Estates.	Value of Estates.	Average Value—	
			Of each Estate.	Of Estate per Death at each Age.			Of each Estate.	Of Estate per Death at each Age.
Under 15	No. 27	£ 6,549	£ 243	£ 0·4	No. 15	£ 5,633	£ 376	£ 0·4
15—20	87	24,376	280	23	24	9,484	395	12
21—29	753	277,539	369	83	193	72,182	374	24
30—39	1,169	958,345	820	258	468	320,824	686	105
40—49	1,957	2,623,962	1,341	532	688	534,243	776	176
50—59	2,736	5,085,288	1,859	759	1,004	831,940	829	240
60—69	3,053	7,606,106	2,491	1,030	1,266	1,420,250	1,122	328
70—79	3,199	11,610,796	3,629	1,433	1,385	1,843,978	1,331	350
80—89	1,406	6,723,061	4,782	1,740	664	2,022,546	3,046	690
90 and over	139	281,921	2,028	622	92	225,132	2,447	453
Not-stated	420	957,529	2,280	...	118	612,013	5,186	...
Absentees	809	5,213,437	6,444	...	269	1,053,918	3,918	...
Naval and Military Forces	131	84,855	658	...	.....	.....	.....	..
Total ...	15,886	41,453,764	2,609	658	6,186	8,952,143	1,447	292

Of the males who died in the State during the period under review, 29 per cent. left property, and of the females 16 per cent. Taking only adults of the males who died, 41 per cent. left property, and of the females 24 per cent.

The average value of estates in relation to the total number of persons who died, excluding absentees, was £658 per male, and £202 per female. Taking only persons leaving property, the estates of males were valued on the average at £2,609, and of females at £1,447.

Comparing the above with a statement prepared similarly in Victoria, it is found that among males up to age 70 the Victorian estates on the average were of higher value than in New South Wales. At ages over 70 years, the New South Wales estates had the higher value; and the general average for all ages was greater in New South Wales. Among females, the Victorian estates were larger in the younger age groups, but the New South

Wales estates were higher in the older ages, and the general average was much higher in New South Wales. The figures relating to the five years 1911-15 are stated below:—

Age Group.	New South Wales.				Victoria.			
	Males.		Females.		Males.		Females.	
	Total Number of Estates.	Average Value of Estates.	Total Number of Estates.	Average Value of Estates.	Total Number of Estates.	Average Value of Estates.	Total Number of Estates.	Average Value of Estates.
		£		£		£		£
Under 15	27	243	15	376	7	392	9	457
15—20	87	283	24	395	66	283	19	408
21—29	753	369	193	374	527	478	141	546
30—39	1,169	820	468	686	873	838	469	548
40—49	1,957	1,341	688	776	1,698	1,207	859	699
50—59	2,736	1,859	1,004	829	2,250	2,123	1,157	1,073
60—69	3,053	2,491	1,266	1,122	2,251	2,725	1,465	1,092
70—79	3,199	3,629	1,385	1,331	3,262	2,901	2,196	1,316
80—89	1,406	4,782	664	3,046	2,325	3,331	1,222	1,167
90 and over	139	2,028	92	2,447	209	3,094	137	1,604
Not stated	420	2,280	118	5,186	...	...	...	...
Absentees...	809	6,444	269	3,918	972	1,879	468	1,315
Naval and Military Forces	131	648	...	...	...	...	...	...
Total ...	15,886	2,609	6,186	1,447	14,440	2,330	8,142	1,104

Information regarding the estates of deceased persons in each State of the Commonwealth, based on the experience of five years 1911-15, is shown in the following statement. The particulars of intestate estates are included where available:—

State.	Estates of Deceased Persons.		Average Deaths of Adults.	Estates per 1,000 Deaths of Adults.	Average Estate per Deceased Adult.	Average Value per Estate.
	Mean Number.	Mean Value.				
		£		No.	£	£
New South Wales ...	4,414	10,081,181	12,731	347	792	2,284
Victoria ...	4,516	8,522,395	11,607	389	734	1,888
Queensland ...	1,471	2,500,753	4,661	316	537	1,700
South Australia ...	1,315	2,613,595	3,178	414	822	1,988
Western Australia ...	895	960,029	1,999	448	480	1,073
Tasmania ...	479	775,314	1,325	361	585	1,619

The proportion of adults who died possessed of property was lower in New South Wales than in any other State except Queensland. In Western Australia the proportion was the highest, but a large number were intestate, and the average value of the property was the lowest shown in the statement. The amount left per adult who died, was highest in South Australia, New South Wales being next. In making these comparisons, however, it should be remembered that no consideration has been given to the age and sex distribution of the populations. That these are important considerations is shown by the fact that the proportion of persons aged 50 years and over at the census of 1911 varied from 15 per cent. in Victoria to 10·4 per cent. in Western Australia, and the number of male adults per 100 females from 98 in the former State to 160 in

the latter. Moreover, the experience in New South Wales and Victoria indicates that the average value of estates increases greatly after the age of 50, and that the males who die possessed of property are more numerous proportionately than the females.

ESTATES OF DECEASED PERSONS.

In the following table a comparison is afforded for quinquennial periods since 1880 of the proportion of persons dying possessed of property per hundred of the total deaths in each quinquennium. The figures shown in this and the succeeding tables for the years prior to 1911 are exclusive of estates administered by the Curator of Intestate Estates:—

Period.	Proportion of Estates per 100 deaths of total population.	Period.	Proportion of Estates per 100 deaths of total population.
	per cent.		per cent.
1880-84	11·0	1909-04	17·0
1885-89	11·6	1905-09	19·1
1890-94	13·2	1910-14	22·9
1895-99	14·9	1915	22·7

The above figures indicate a widely diffused basis of prosperity, and a still more convincing illustration of the large distribution of property in New South Wales is afforded by the next table, which shows the proportion of estates per 100 deaths of adult males, and per 100 deaths of adult males and females. The latter method of comparison is frequently neglected, but it should not be overlooked, as large numbers of females are possessors of valuable property in their own rights. The figures are given for quinquennial periods, commencing with the year 1880:—

Period.	Ratio of Estates per 100 deaths of adult Males.	Ratio of Estates per 100 deaths of adult Males and Females.
1880-84	34·6	22·3
1885-89	37·5	23·8
1890-94	41·2	25·8
1895-99	42·7	26·2
1900-04	46·0	27·8
1905-09	48·8	29·2
1910-14	56·6	34·0
1915	56·1	33·6

Information regarding the ages of persons leaving property was not ascertained until 1911, and therefore it was not possible to exclude from the above calculations the estates of persons under 21 years of age in the earlier years. Since 1911, however, the necessary particulars are available, and are shown in the following table:—

Year.	Ratio of Adult Males leaving property, to total deaths of adult males.	Ratio of Adult Females leaving property, to total deaths of adult females.
	per cent.	per cent.
1911	37·6	23·4
1912	42·9	23·4
1913	41·9	23·3
1914	38·8	24·6
1915	39·8	24·0

The statement that there is a wide distribution of property in New South Wales must be taken relatively. The following table is of interest as showing the distribution of property amongst the persons who died during the ten years ended June, 1916:—

Category.	Number of deceased persons leaving Property.	Proportion in each Group.	Value of Estates of deceased persons.	Proportion in each Group.
		per cent.	£	per cent.
£50,000 and over ...	214	0·55	31,622,232	34·49
£25,000 to £50,000 ...	320	0·82	10,936,801	11·93
£12,500 to £25,000 ..	591	1·52	10,146,560	11·07
£5,000 to £12,500 ...	1,732	4·44	13,294,646	14·50
£200 to £5,000 ...	22,927	58·79	24,605,148	26·83
Under £200 ...	13,211	33·88	1,085,126	1·18
Total ...	33,995	100·00	91,690,513	100·00

Analysis of the returns for the five years ended 31st December, 1915, shows that 94 per cent. of estates represented persons domiciled in the State, leaving only 6 per cent. as absentees, that is, persons who died outside the State leaving property in New South Wales, including soldiers who died abroad. In the five years 1911-15, the number of estates of male absentees was 940, and the average value £5,636; there were 269 estates of female absentees of an average value of £3,918.

MANUFACTURING INDUSTRY.

The manufactures of New South Wales have grown very slowly. In the early days of settlement, when voyages were long and dangerous on account of Great Britain's struggle with continental fleets for the supremacy of the seas, the Colony was thrown largely on its own resources, and its Governors did all in their power to foster and to stimulate industrial enterprise. Beyond this encouragement the manufactures of New South Wales received no aid. They were established largely as the outcome of necessity, and as a means of avoiding waste. They were for several decades merely rudimentary handlings and crude processes applied to the preservation of perishable raw material. They treated the production of the pastoral industry, the seas, the forests, and the mines.

The present great War creates to some extent a recrudescence of the conditions of earliest settlement. Once again the State of New South Wales is forced to seek from its own resources and industrial equipment amelioration from industrial pressure. A number of constructive trades are now in urgent need of manufactured articles which in time of peace were supplied by importation. That source of supply is cut off by a considerable cessation of production, not only in the countries engaged in warfare, but also in neutral countries, together with a stoppage of supplies which were largely furnished in *ante-bellum* times by Germany. Besides this handicap to importation, there has grown up the need of conserving cargo-space for only the most urgently required commodities; there is also the risk from submarines. These co-ordinated obstacles seriously affect the manufacturing industries of the State and of the Commonwealth, no less than those of the Dominion of New Zealand, and prompt and strenuous effort is therefore necessitated to ensure proper commercial interchange.

The records of the manufactories and works of New South Wales at decennial intervals from 1871 and for the last five years show the number of establishments in operation, the number of persons engaged, and their relation to the general population to be as given in the following statement.

Decennium and Year.	Manufacturing Establish- ments.	Persons Employed in Factories, including Working Proprietors.				
		Males.	Females.	Total.	Per Factory.	Per cent. of General Population.
1871	1,813	...	...	13,583	7.5	2.7
1881	2,961	28,819	2,372	31,191	10.5	4.1
1891	3,056	43,203	7,676	50,879	16.6	4.3
1901	3,367	54,556	11,674	66,230	19.6	4.8
1911	5,039	82,053	26,541	108,624	21.6	6.5
1912	5,162	88,178	27,383	115,561	22.4	6.6
1913	5,346	93,036	27,364	120,400	22.5	6.6
1914-15	5,269	90,409	26,202	116,611	22.1	6.5
1915-16	5,210	87,724	28,677	116,401	22.3	6.2

The latest particulars of manufactories and works relate to the twelve months from 1st July, 1915, to 30th June, 1916. From the 1st January, 1892, the statistics related to the calendar year, the last in that respect being 1913. Particulars in regard to the six months from 1st January to 30th June, 1914, were not collected. In future production statistics will cover the period of twelve months from the 1st of July to the 30th of June.

EXPANSION OF INDUSTRIES.

The growth of manufacturing industries in New South Wales for the last five years, as indicated by the number of the establishments in operation, the value of plant and machinery, the amount of wages and salaries paid to employees, and the annual output of manufactured goods, is shown in the following table.

Year	Establishments.	Persons Employed, including Working Proprietors.	Value of Plant and Machinery.	Salaries and Wages paid.*	Value of Goods Manufactured or work done.
			£	£	£
1911	5,039	108,624	12,510,600	10,047,662	54,346,011
1912	5,162	115,561	13,795,195	11,592,052	61,163,328
1913	5,346	120,400	14,861,676	12,683,384	65,672,495
1914-15	5,269	116,611	16,866,982	12,667,721	68,253,332
1915-16	5,210	116,401	18,211,104	13,413,845	70,989,864
Increase per cent. 1911 to 1916 ...	3·4	7·2	45·6	33·5	30·6

* Excluding drawings by working proprietors.

The figures representing "Goods manufactured or work done" include the value of production of butter and cheese factories, which is included also in the records of the Dairying Industry in another part of this volume.

During the last ten years additional plant and machinery, valued at nearly £9,804,000, have been introduced; salaries and wages have increased by nearly 140 per cent., and output by 104 per cent. Comparing the figures for 1915-16 with those of 1914-15, continued and general expansion is apparent. Although, during the course of the War, some manufacturing industries have declined on account of the difficulty of securing essential constituents from overseas, others have advanced greatly from the necessity of supplying locally manufactured articles to take the place of those formerly imported when transit involved no war-risk and when shipping amply subserved import requirements.

MANUFACTORIES IN NEW SOUTH WALES.

The following table is a summary of the most important facts relating to the manufactories of New South Wales in 1901, 1911, and 1915-16.

Particulars.	1901.	1911.	1915-16.
Number of Establishments... ..	3,367	5,039	5,210
Number of Employees ... { Male	54,556	82,083	87,724
Number of Employees ... { Female	11,674	26,541	28,677
Number of Employees ... { Total	66,230	108,624	116,401
+Salaries and Wages paid to Employees. { Male ... £	*	8,917,583	11,888,028
+Salaries and Wages paid to Employees. { Female ... £	*	1,130,079	1,525,817
+Salaries and Wages paid to Employees. { Total ... £	4,945,079	10,047,662	13,413,845
Capital invested in Land, Buildings, and Fix- tures £	7,338,628	13,140,207	17,770,517
Value of Plant and Machinery £	5,770,725	12,510,600	18,211,104
Value of Materials and Fuel used... .. £	15,637,611	34,913,564	45,755,299
Value added to Raw Materials in process of Manufacture £	10,010,860	19,432,447	25,234,565
Total Value of Output £	25,648,471	54,346,011	70,989,864
Average per Factory--			
Employees No.	19.6	21.6	22.3
Land and Buildings £	2,180	2,607	3,411
Plant and Machinery £	1,713	2,482	3,495
Material and Fuel £	4,643	6,928	8,782
Value added in process of Manufacture	£ 2,973	3,856	4,843
Total Output £	7,616	10,784	13,626
Average per Employee--			
Time Worked months	11.32	11.55	11.56
+Salaries and Wages { Male ... £	*	114	141
+Salaries and Wages { Female ... £	*	43	54
+Salaries and Wages { Total ... £	81	96	119
Value of Materials and Fuel £	236	321	393
Value added in Manufacture £	151	179	217
Total Output £	387	500	610

* Information not available. † Excluding drawings of working proprietors.

The table is indicative of considerable industrial progress since 1901, though the continuous development of all Australasian manufactures was greatly influenced by the outbreak of the war in 1914, being in some instances diverted into new channels of production, and in others abruptly terminated. This result was largely determined by the decline of shipping facilities, outwards and inwards. The incidence of war, as an agency in the development or decline of Australian manufacturing industries, will be considered with reference to specialised production subsequently.

According to the foregoing figures the number of establishments has increased by nearly 55 per cent, and the number of employees by over 75 per cent. In 1901 the capital invested in land, buildings, fixtures, plant and machinery

amounted to £13,109,353, and in 1915-16 it had increased to £35,981,621, or by over 174 per cent. The value of the output is also nearly 177 per cent. more than in 1901. Side by side with this development, average wages have advanced by nearly 42 per cent., and the cost of materials and fuel by over 192 per cent.

CLASSIFICATION OF MANUFACTORIES.

The statistics of the manufacturing industries of New South Wales have been arranged for purposes of reference and comparison into nineteen groups, in accordance with a standardised classification adopted at a Conference of Statisticians.

The term "establishment" includes branches which, whether conducted in separate buildings or not, deal with separate branches of industry, and are therefore counted as separate industrial entities; but this is subject to certain limitations.

The returns of manufacturing industry presented in this part comprise statistics collected from establishments (so-defined) employing four, or more than four, persons engaged directly or indirectly in working at certain handicrafts, or in preparing or manufacturing articles for trade or sale; and from establishments employing fewer than four persons where machinery, operated by steam, gas, electric, water, wind, or horse power, is used.

With the exception of tanneries, of bacon, butter, cheese, and soap and candle factories, of brickyards, of quarries, and of gas and lime works, of which it is necessary to ascertain the production in order to ascertain the total output, establishments operating with manual labour only, and with fewer than four workers, are not included.

The foregoing definition, based on the number of workers, applies uniformly to all other industries, and includes within its limitation all tailoring, boot-making, dressmaking and millinery establishments. The definition does not, however, cover shops engaged only in retail trade and in the distribution or in the importation of goods. Nor does it apply to bakeries, butcheries in which sausages and smallgoods are made, laundries, monumental masonry yards, and waterworks.

With the exception of blacksmiths and wheelwrights' shops, the definition covers the establishments in which workers are engaged in repairing or assembling manufactured parts of an article.

In cases where a manufacturing business is conducted in conjunction with an importing or a retail business, reference is made to the manufacturing section only; and persons employed in the importing or retail branch of the business, such as salesmen, travellers, collectors, warehouse workers, and carters delivering goods, are not included in connection with a factory or workshop. In cases also where construction (including repairs to the factory buildings or machinery) is in progress, particulars connected therewith are excluded from statistics relating to the establishments in which other specific industries are conducted. But in cases where two or more industries are being conducted, as in large establishments, returns are furnished for each industry; and where power from the same generating plant is used for more than one industry, it is proportionately distributed, as far as possible. If generated on the premises, electric light and power are treated as an independent industry.

The value of production includes that of manufactures executed in educational, charitable, and reformatory, or in other public institutions, excluding penitentiaries. Power and lighting plants are in all cases recorded.

The following table shows certain principal facts relating to each class of industry in the State during the year 1915-16.

Class of Industry.	Establishments.	Average Number of Employees.			Average time worked per Employee.	Total Salaries and Wages, exclusive of Drawings of Working Proprietors.	Horse-power of Machinery—Average used.	Value of Machinery, Tools, and Plant.
		Males.	Females.	Total.				
Treating Raw Material, etc.	264	3,434	94	3,528	months.	£	h.-p.	£
Oils, Fats, etc.	40	868	215	1,103	11-10	392,654	6,068	397,582
Processes in Stone, Clay, Glass, etc.	269	5,403	67	5,470	11-13	119,678	1,775	345,704
Working in Wood	645	7,317	89	7,407	11-13	701,306	14,642	1,088,225
Metal Works, Machinery, etc.	584	27,531	436	27,967	11-67	831,684	18,586	802,365
Connected with Food, Drink, etc.	767	10,513	3,846	14,409	11-33	4,065,413	52,298	4,956,818
Clothing, Textile Fabrics, etc.	982	7,237	19,203	26,440	11-70	1,618,761	25,065	3,604,699
Books, Paper, Printing, etc.	458	6,844	2,524	9,368	11-18	1,532,134	6,383	626,144
Musical Instruments, etc.	14	387	44	431	12-00	1,105,061	5,714	1,277,004
Arms and Explosives	8	1,238	5	1,243	12-00	51,217	209	13,866
Vehicles and Fittings, Saddlery, etc.	404	3,941	108	4,049	11-84	239,457	3-7	100,551
Ship and Boat Building, etc.	30	3,219	4	3,223	11-99	449,609	1,598	149,932
Furniture, Bedding, and Upholstery	246	2,996	4-8	3,464	11-66	520,174	2,651	358,881
Drugs, Chemicals, and By-products	94	1,015	676	1,691	11-90	385,868	2,181	75,510
Surgical and other Scientific Instruments	14	85	27	115	12-00	170,526	1,735	238,743
Jewellery, Timepieces, and Plated Ware	56	601	87	688	11-95	13,410	14	5,029
Heat, Light, and Power	228	3,761	27	3,788	11-95	89,846	270	30,175
Leatherware, N.E.I.	26	413	169	582	11-68	529,133	110,710	3,662,633
Minor Wares, N.E.I.	81	1,008	547	1,555	11-75	56,800	179	14,718
Total ...	5,210	87,724	23,677	116,401	11-56	3,413,845	231,171	18,211,104

The metropolitan district is the centre of the chief manufacturing industries, particularly those connected with clothing, printing, wool-scouring and fellmongering, ship and boat building and repairing, and the manufacture of furniture, drugs, and musical instruments. The following table shows particulars respecting each class of industry in the metropolitan district during the year 1915-16.

Class of Industry.	Establishments.	Average Number of Employees.			Average time worked per Employee.	Total Salaries and Wages, exclusive of Drawings of Working Proprietors.	Horse-power of Machinery—Average used.	Value of Machinery, Tools, and Plant.
		Males.	Females.	Total.				
Treating Raw Material, etc.	100	2,122	90	2,212	months.	£	h.-p.	£
Oils, Fats, etc.	21	623	187	809	11-62	287,067	4,427	270,103
Processes in Stone, Clay, Glass, etc.	118	3,173	38	3,211	11-30	51,983	199	179,564
Working in Wood	202	3,556	50	3,606	11-29	432,951	5,888	469,888
Metal Works, Machinery, etc.	405	18,179	411	18,590	11-72	455,303	10,410	361,048
Connected with Food, Drink, etc.	211	6,037	3,850	9,887	11-93	2,656,724	14,008	2,673,367
Clothing, Textile Fabrics, etc.	721	6,064	17,336	23,399	11-90	1,068,060	12,695	2,126,970
Books, Paper, Printing, etc.	251	5,610	2,417	8,027	11-68	1,705,044	5,270	516,353
Musical Instruments, etc.	14	337	44	381	11-98	943,318	5,114	1,016,451
Arms and Explosives	5	20	...	20	12-00	51,297	209	13,863
Vehicles and Fittings, Saddlery, etc.	183	2,466	93	2,499	12-00	2,045	16	1,463
Ship and Boat Building, etc.	26	3,187	4	3,191	11-91	288,734	89	76,841
Furniture, Bedding, and Upholstery	217	2,760	462	3,222	11-93	516,211	2,693	397,443
Drugs, Chemicals, and By-products	82	798	665	1,463	12-00	358,654	2,069	68,826
Surgical and other Scientific Instruments	13	86	27	113	11-98	144,526	1,581	123,093
Jewellery, Timepieces, and Plated Ware	52	583	86	669	12-00	13,258	15	4,639
Heat, Light, and Power	93	2,179	16	2,165	11-95	17,451	270	20,425
Leatherware, N.E.I.	23	413	169	582	11-72	226,032	84,666	2,742,820
Minor Wares, N.E.I.	75	955	543	1,498	11-75	56,800	179	14,718
Total ...	2,815	59,087	26,278	85,365	11-59	137,346	956	110,742
Total ...	2,815	59,087	26,278	85,365	11-80	9,598,804	182,015	10,635,962

ESTABLISHMENTS.

The following table shows the number of establishments operating in each class of manufacturing industry during 1901, 1906, and the last five years, the total for each period being related to that for 1901 taken as 100.

Class of Industry.	Establishments.						
	1901.	1906.	1911.	1912.	1913.	1914-15.	1915-16.
Treating Raw Material, etc. ...	256	256	272	287	297	281	264
Oils, Fats, etc. ...	51	48	48	45	41	42	40
Processes in Stone, Clay, Glass, etc. ...	244	252	309	297	313	293	269
Working in Wood ...	430	457	662	684	712	664	645
Metal Works, Machinery, etc. ...	301	376	509	536	553	568	584
Connected with Food, Drink, etc. ...	673	707	769	765	770	757	767
Clothing, Textile Fabrics, etc....	538	724	981	994	1,003	998	982
Books, Paper, Printing, etc. ...	298	335	436	426	447	458	458
Musical Instruments, etc. ...	6	6	12	14	13	13	14
Arms and Explosives ...	2	3	5	6	8	7	8
Vehicles and Fittings, Saddlery, etc. ...	246	259	384	393	434	397	404
Ship and Boat Building, etc. ...	25	34	41	47	46	43	30
Furniture, Bedding, and Upholstery...	115	119	197	220	246	243	246
Drugs, Chemicals, and By-products ...	19	48	82	87	87	93	94
Surgical and other Scientific Instruments ...	7	8	12	13	13	15	14
Jewellery, Timepieces, and Plated Ware	14	33	48	53	55	59	56
Heat, Light, and Power ...	106	139	191	203	216	238	228
Leatherware, N.E.I. ...	5	12	20	24	23	24	26
Minor Wares, N.E.I. ...	31	45	61	68	69	76	81
Total ...	3,367	3,861	5,039	5,162	5,346	5,269	5,210
Proportion to total for 1901 ...	100	115	150	153	159	156	154

Reviewing the advances at five-year intervals, the increase between 1896 and 1901 amounted to 261 establishments, representing a percentage increase of 8·4; between 1901 and 1906 the increase amounted to 494, or 14·7 per cent., and between 1906 and 1911 the increase amounted to 1,178, or 30·5 per cent. The increase between 1911 and 1915-16 amounted to 171, or 3·4 per cent., and showed an absolute decline of 136 on the number of establishments in the year 1913, and of 37 on that in the year 1914-15. No fewer than 67 establishments working in wood dropped out after 1913, the other industrial manufactories, in their order of declension, being those

engaged in processes of stone, clay, glass, etc., to the number of 44; in treating raw material, 33; in vehicles, fittings, and saddlery, 30; in clothing and textile fabrics, 21; in ship and boat building, 16; in food, drink, etc., 3; and in oils and fats, 1. Establishments engaged in the manufacture of metal works, machinery, etc., increased in number by 31; in books, paper, printing, etc., by 11; and in musical instruments by one.

In 1915-16 the largest class numerically was that connected with clothing and textile fabrics, the next classes in order being those relating to food and drink, to working in wood, and to metal works and machinery.

In 1901 the manufactories established outside the metropolitan area outnumbered those situated within that area, the ratio being 1,952 to 1,415, but since that year more new factories have been established in the metropolitan than in the extra-metropolitan area, and the ratio of the latter to the former is 5,221 to 2,395, but the only adequate standard to be found is not in the number of factories, but in output and in capacity of employment.

The following statement shows the distribution of manufactories as between the metropolitan district and the remainder of the State, together with the number of establishments in which machinery was installed for 1901, 1906, and the last five years.

Year.	Metropolitan District.			Remainder of State.			New South Wales.		
	With Machinery.	Without Machinery.	Total.	With Machinery.	Without Machinery.	Total.	With Machinery.	Without Machinery.	Total.
1901	754	661	1,415	1,215	737	1,952	1,969	1,398	3,367
1906	1,136	635	1,771	1,360	730	2,090	2,496	1,365	3,861
1911	1,793	717	2,510	1,757	772	2,529	3,550	1,489	5,039
1912	1,961	686	2,650	1,811	701	2,512	3,775	1,387	5,162
1913	2,093	658	2,751	1,881	714	2,595	3,974	1,372	5,346
1914-5	2,154	709	2,863	1,832	573	2,405	3,987	1,282	5,269
1915-6	2,250	565	2,815	1,827	568	2,395	4,085	1,136	5,210

Sydney is the chief manufacturing centre of the State because it occupies the first settled area, and of necessity all industrial effort began in the only place where there was an adequate aggregation of people to make such industrial effort profitable. As time went on other industrial centres grew up in districts where raw material was treated at first-hand. Butter and cheese were made at the place of production of milk from the beginning of settlement, and even to-day the primary processes of bacon-curing are conducted in the country. Brick-making is largely an extra-metropolitan industry, and large brick-kilns operate in Auburn, Rookwood, Bellambi, Bulli, Waratah, and other places. Against 38 brickyards in the metropolitan area, there are 130 in the remainder of the State, and whilst the former employs 1,097 persons, the latter employs 1,493, though a number of country establishments are small works engaged in fulfilling local requirements.

At Portland a cement factory competes against a similar establishment at Granville. Certain kinds of coal suitable for the manufacture of coke are

treated locally at Wollongong, Scarborough, Lithgow, Clifton, Bulli and Bellambi. Iron works are established at Lithgow and at Newcastle, where the Broken Hill Proprietary Company has recently built smelters and taken up the treatment of iron ores. Woollen mills are in operation at Parramatta and Liverpool, also at Lithgow, where a Commonwealth small arms factory is engaged in making rifles and munitions for the use of the Australian forces. Rabbits are trapped and treated locally throughout the State, and freezing works are established at almost every important township. Butter factories, as a distinct branch of the dairying industry, are of modern institution, and have been adopted from Denmark.

Newcastle is the centre of a large soap and candle industry, and of the manufacture of biscuits. Many country towns contain soap and candle works, plants for the making of electric light, gas, ice, and aerated waters, tanneries, breweries, wool-scouring and fellmongering establishments, and flour-mills. Saw-milling is, of course, almost entirely a rural industry, and like coke-making, deals with a primary product at first-hand at the place of production without any intervening process.

If the accident of first settlement constituted Sydney's pre-eminence in New South Wales as a manufacturing industrial centre, it has certainly not deterred or debarred the development of manufactures outside the metropolitan area. The growing needs of commerce in the city itself and the residential requirements of the city workers in the immediate suburbs of the metropolis have compelled those manufacturing industries which need ample space for their operations to migrate to the outer suburban fringe, and even to extra-metropolitan areas, where land is cheaper and less occupied. Nevertheless, a number of concentrated and intensive manufactures are conducted in the city, which provides the inestimable advantage of accessibility to the deep-sea.

Direct communication with the world's commercial and industrial centres has not been hampered at Sydney by a tortuous river approach, a shoal anchorage, or an exposed roadstead. Ships of the heaviest tonnage can anchor alongside the rocky foreshores of Sydney Harbour with as much facility and safety as at the wharves of the city-front. The railway policy of a former day, no less than the conditions of settlement, made Sydney the terminus of lines from every part of the State. A naturally defective water supply has been successfully overcome by repeated schemes of conservation, and by the creation of catchment areas and reservoirs.

The factors which have made Sydney the chief manufacturing centre in the State are priority of settlement, the possession of an excellent port and harbour, and of a railway system designed to minister primarily to the exigencies of metropolitan leadership. As a manufacturing centre, Sydney attracted to its habitancy the world's skilled craftsmen and the trained operatives of the factories of Great Britain, and was enabled to retain them by superior conditions of living, shorter hours of labour, and higher rates of pay than those which obtained in the countries from which they had migrated. Newcastle, Lithgow, Wollongong, Broken Hill, Portland and many other places, are better adapted as centres of manufacturing industry than Sydney, because they are situated in districts producing the raw materials, and doubtless, with the progress of time, there will be a gradual elimination from the metropolis of those manufacturing industries which can be conducted elsewhere more expeditiously and directly, and consequently more profitably.

The largest relative increases of manufacturing industries in the metropolitan area between 1901 and 1915-16 were shown in clothing and textile

fabrics, etc.; metal works, machinery, etc.; furniture, bedding and upholstery; books, paper, printing, etc.; working in wood; vehicles and fittings, etc.; drugs, chemicals and by-products; and heat, light and power. Outside the metropolitan area the greatest advances were in industries engaged in working in wood; clothing and textile fabrics, etc.; vehicles and fittings, saddlery, etc.; heat, light, and power; and food, drink, etc. The greatest relative increases necessarily occur in those industries in which development is comparatively recent.

The following table shows the distribution of manufacturing establishments by industrial classes for the metropolitan district and for the remainder of New South Wales for the census years 1901 and 1911, and the years 1913, and 1915-16.

Class of Industry.	Metropolitan District.				Remainder of State.			
	1901.	1911.	1913.	1915-6	1901.	1911.	1913.	1915-6
Treating Raw Material, etc.	89	102	106	100	167	170	191	164
Oils, Fats, etc.	21	22	21	21	30	26	20	19
Processes in Stone, Clay, Glass, etc.	66	103	111	118	178	206	202	151
Working in Wood	86	182	201	202	344	480	511	443
Metal Works, Machinery, etc.	172	341	379	405	129	168	174	179
Connected with Food, Drink, etc.	160	188	198	211	513	581	572	556
Clothing, Textile Fabrics, etc.	372	689	714	721	166	292	289	261
Books, Paper, Printing, etc.	124	227	248	251	174	209	199	207
Musical Instruments, etc.	6	12	13	14	..	..	..	..
Arms and Explosives	2	4	6	5	..	1	2	3
Vehicles and Fittings, Saddlery, etc.	93	142	175	183	153	242	259	221
Ship and Boat Building, etc.	16	30	35	26	9	11	11	4
Furniture, Bedding, and Upholstery	99	180	224	217	16	17	22	29
Drugs, Chemicals, and By-products	12	74	79	82	7	8	8	12
Surgical and Other Scientific Instruments.	7	11	12	13	..	1	1	1
Jewellery, Timepieces, and Plated Ware	14	44	51	52	..	4	4	4
Heat, Light, and Power	42	84	92	104	64	107	124	135
Leatherware, N.E.L.	5	19	22	26	..	1	1	..
Minor Wares, N.E.L.	29	56	64	75	2	5	5	6
Total	1,415	2,510	2,751	2,815	1,952	2,529	2,595	2,365

Size of Establishments.

The tendency to concentrate manufactures in large establishments, or to diffuse them in small workshops, is an interesting point for consideration in any scheme of industrial organisation. The following statement shows at intervals since 1901 the distribution of establishments, according to the

numbers of persons engaged in the metropolitan district and in the remainder of New South Wales.

Establishments employing—	1901.		1911.		1914-15.		1915-16.	
	Establish- ments.	*Em- ployees.	Establish- ments.	*Em- ployees.	Establish- ments.	*Em- ployees.	Establish- ments.	*Em- ployees.
METROPOLITAN DISTRICT.								
Under 4 employees	79	188	238	547	397	906	371	855
4 employees ...	105	420	179	716	212	848	210	840
5 to 10 employees	429	3,036	743	5,336	853	6,078	829	5,767
11 to 20 „ ...	334	4,919	520	7,834	560	8,149	562	8,274
21 to 50 „ ...	279	8,564	477	14,695	501	15,688	518	16,319
51 to 100 „ ...	107	7,443	203	14,422	194	13,577	171	11,873
101 and upwards...	82	17,750	150	34,042	147	39,725	154	41,437
Total ...	1,415	42,320	2,510	77,592	2,864	84,971	2,815	85,365
REMAINDER OF STATE.								
Under 4 employees	439	1,094	538	1,282	565	1,328	594	1,352
4 employees ...	256	1,024	371	1,484	318	1,272	360	1,440
5 to 10 employees	768	5,333	993	6,817	925	6,260	872	5,960
11 to 20 „ ...	294	4,236	381	5,390	367	5,313	346	4,886
21 to 50 „ ...	142	4,612	164	4,874	145	4,506	134	3,995
51 to 100 „ ...	30	2,086	40	2,858	38	2,737	40	2,786
101 and upwards...	23	5,430	42	8,327	47	10,224	49	10,617
Total ...	1,952	23,815	2,529	31,032	2,405	31,640	2,395	31,036
NEW SOUTH WALES.								
Under 4 employees	518	1,282	776	1,829	962	2,234	965	2,207
4 employees ...	361	1,444	550	2,200	530	2,120	570	2,230
5 to 10 employees	1,197	8,369	1,736	12,153	1,778	12,338	1,701	11,727
11 to 20 „ ...	628	9,155	901	13,224	927	13,462	908	13,160
21 to 50 „ ...	421	13,176	641	19,569	646	20,194	652	20,314
51 to 100 „ ...	137	9,529	243	17,280	232	16,314	211	14,659
101 and upwards..	105	23,180	192	42,369	194	49,949	203	52,054
Total ...	3,367	66,135	5,039	108,624	5,269	116,611	5,210	116,401

* Including working proprietors.

A comparison showing the position of each group is presented in the following statement :—

Establishments employing—	Proportion of each Group to Total.							
	Metropolitan District.				Remainder of State.			
	1901.	1911.	1914-15.	1915-16.	1901.	1911.	1914-15.	1915-16.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Under 4 employees ..	5·8	9·5	13·9	13·2	22·5	21·3	23·5	24·8
4 employees ...	7·4	7·1	7·4	7·5	13·1	14·6	13·2	15·0
5 to 10 employees ...	30·3	29·6	29·8	29·4	39·3	39·2	38·5	36·4
11 to 20 „ ...	23·6	20·7	19·5	19·9	15·1	15·1	15·3	14·5
21 to 50 „ ...	19·6	19·0	17·5	18·4	7·3	6·5	6·0	5·6
51 to 100 „ ...	7·6	8·1	6·8	6·1	1·5	1·6	1·6	1·7
101 and upwards ...	5·7	6·0	5·1	5·5	1·2	1·7	1·9	2·0
Total ...	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

During the period 1901-16 the number of establishments in New South Wales increased by nearly 55 per cent., and the number of employees by a little more than 76 per cent. The distribution of establishments according to capacity of employment did not vary greatly throughout the period, but

there was a marked tendency of increased capacity of employment in establishments of 101 workers and upwards. In the first group (establishments employing under 4 workers) the proportion to the total number of establishments in the State increased from 15.4 per cent. to 18.5 per cent. Those employing 4 workers remained fairly constant, and represented 10.7 per cent. of total establishments in 1901, and 10.9 per cent. in 1915-16, the lowest proportion being 10 per cent. in 1914-15. Establishments employing from 5 to 10 workers declined throughout the period from 35.5 per cent. to 32.7 per cent. of the total number in the State. Those employing from 11 to 20 workers declined from 18.7 per cent. to 17.4 per cent.; those employing from 21 to 50 workers represented from 12.5 per cent. of the total number of establishments both at the first and last year shown in the table, increasing to 12.7 per cent. in 1911, and decreasing to 12.3 per cent. in 1914-15; those employing from 51 to 100 workers represented 4.1 per cent. of the total number in 1901 and in 1915-16, but increased to 4.8 in 1911, dropping to 4.4 in 1914-15; and those employing 100 workers and upwards increased from 3.1 per cent. in 1901 to 3.9 per cent. in 1915-16.

The metropolitan district shows a considerable proportional increase in the number of establishments employing fewer than 4 workers, an increase which ranged from 5.8 per cent. in 1901 to 13.1 per cent. in 1915-16. The second group showed little fluctuation throughout the period under review, the proportion being about 1 per cent. Establishments employing from 5 to 10 persons declined proportionately to the total from 30.3 per cent. in 1901 to 29.4 per cent. in 1915-16; those employing from 11 to 20 persons from 23.6 to 20 per cent.; those employing from 21 to 50 persons from 19.6 per cent. to 18.4 per cent.; those employing from 51 to 100 persons from 7.6 per cent. to 6.1 per cent.; and those employing 100 persons and upwards from 5.7 per cent. to 5.5 per cent.

The establishments in factory districts outside the metropolitan area showed a proportionate increase ranging from 22.5 per cent. of the total in 1901 to 24.8 per cent. in 1915-16 for the first group; from 13.1 per cent. to 15 per cent. for the second; from 1.5 per cent. to 1.7 per cent. for the sixth; and from 1.2 per cent. to 2 per cent. for the seventh (establishments employing 100 persons and upwards). But there was a decline in establishments of the third group (employing from 5 to 10 persons) from 22.4 per cent. in 1901 to 19.2 per cent. in 1915-16, in the fourth (11 to 20 persons) from 17.8 per cent. to 15.7 per cent., and in the fifth (21 to 50 persons) from 19.4 per cent. to 12.9 per cent.

From the foregoing it may be deduced that small establishments will always maintain a certain ratio to the total number of factories, because they represent a fairly constant demand on the part of the community, particularly in the districts outside the metropolis. The middle-class factory is declining, both in the metropolitan district and in districts outside the metropolitan area; but while this characteristic extends to establishments employing from 51 to 100 workers in the metropolitan district, this type of establishment is increasing proportionately in number in the districts outside the metropolitan area.

The number of the largest type of factory is not increasing in the metropolitan district, but it is in districts outside the metropolitan area. The tendency is towards a maintenance of small workshops and factories, a gradual elimination of factories of moderate capacity, and a great increase in the number of the largest type of industrial manufactories.

With regard to employment generally, the factories of the metropolitan district are more important than those of all other areas, not only on account

of the amount of capital invested and the volume of their output, but also because they provide employment for twice the number of persons. The average number of employees per establishment in the metropolitan district in 1915-16 was 30, as compared with about 13 in the country; an average which shows a slight advance on that of the preceding years, and is due to the fact that 58 factories listed in 1914-15 had ceased operations.

EMPLOYMENT.

The relative importance of different manufacturing industries, based on their capacity to employ human labour, is shown in the following comparative statement of the average number of persons engaged.

Class of Industry.	Persons engaged, including Working Proprietors.				
	1901.	1911.	1913.	1914-15.	1915-16.
Treating Raw Material, etc.: Pastoral Products	2,981	3,890	3,992	3,818	3,528
Oils and Fats: Animal, Vegetable, etc. ...	693	889	923	1,008	1,103
Processes in Stone, Clay, Glass, etc. ...	3,007	5,695	6,563	6,256	5,470
Working in Wood ...	5,108	8,181	9,293	8,185	7,397
Metal Works, Machinery, etc. ...	13,026	22,862	27,619	26,407	27,967
Connected with Food, Drink, etc. ...	11,372	14,050	15,197	15,390	14,409
Clothing, Textile Fabrics, etc. ...	14,497	26,504	26,565	24,869	26,440
Books, Paper, Printing, etc. ...	5,573	9,134	10,009	9,279	9,363
Musical Instruments, etc. ...	226	387	406	354	381
Arms and Explosives ...	11	33	379	703	1,243
Vehicles and Fittings, Saddlery, etc. ...	2,541	4,416	4,550	4,080	4,049
Ship and Boat Building, etc. ...	1,541	2,429	3,358	4,710	3,223
Furniture, Bedding, and Upholstery ...	2,140	3,534	4,035	3,642	3,464
Drugs, Chemicals, and By-products ...	450	1,460	1,365	1,559	1,691
Surgical and other Scientific Instruments	69	96	97	112	115
Jewellery, Timepieces, and Plated Ware	165	753	816	714	688
Heat, Light, and Power ...	1,417	2,795	3,577	3,721	3,728
Leatherware, N.E.I. ...	117	461	525	532	582
Minor Wares, N.E.I. ...	391	1,055	1,131	1,275	1,555
Total ...	66,230	108,624	120,400	116,611	116,401

During the quinquennial period 1901-06 the increase in the number of persons engaged in manufacturing industries amounted to 11,592, and during the quinquennial period 1906-11 to 30,802; the increase for the two years 1911-13 was 11,776, and during the quinquennial period 1911-16 it was 7,777; there was, however, a decline of 3,789 persons during the two years 1913-15, and during 1915-16 a further decline of 210 persons, due to reasons hereafter to be examined. In quinquennial periods the aggregate figures for all classes give the following increases:—

1896-1901	32.9 per cent.
1901-1906	17.5 "
1906-1911	39.6 "
1911-1916	7.2 "

The relatively small increase in the middle period is due, in a measure, to the fact that in the early half of the quinquennium the rainfall in several parts of the State was below normal, and the consequent restriction of production in the primary industries reacted upon the secondary industries. There is, of course, a limit to the expansion of existing industries—but it is a limit imposed by the consuming capacity of the community, or by its preference for locally manufactured rather than for imported commodities, plus the power of oversea markets to absorb the country's exports. In certain established industries New South Wales had almost reached that limit prior to the outbreak of the great war in Europe, when a number of new factors operated in the incidence of manufactured production. It is evident that a great number of secondary industries could be established in New South Wales, as large quantities of raw material now exported in bulk could be treated locally, and there are sources of mineral utility which have not yet been exploited.

During the quinquennial period 1911-16 the increase in manufacturing industrial employment was only 7·2 per cent., as against 39·6 per cent. during the preceding quinquennium. The slow increase here shown cannot be attributed entirely to the war, because the rate of progress had already exhibited signs of a decline during the first half of the period, prior to the declaration of hostilities. Indeed, the war, while acting retardingly with respect to some manufacturing industries, has stimulated others. Industries operating in metal works and machinery suffered a loss in personnel of employment during the year 1914-15, but recovered in 1915-16, and at the latter period furnished with occupation 348 persons more than were employed in 1913. Those working in clothing and textile fabrics in 1911 numbered 26,504, and increased to 26,565 in 1913, to decline to 24,869 in 1914-15, but the succeeding year witnessed a recovery to 26,440, which was still short by 125 persons of the number employed in the year 1913, notwithstanding the great demand for the production of cloth for the equipment of soldiers. Those working industries connected with the manufacture of articles of food and drink numbered 14,050 in 1911, and increased to 15,197 in 1913, and to 15,390 in 1914-15, but in the succeeding year declined to 14,409. These three classes have, in modern times, consistently stood out in the table of statistics relating to the types of manufacturing industry.

The following table shows the average number of persons engaged in manufacturing industries in the metropolitan area and in the remainder of the State for the last ten years.

Year.	Employees (including Working Proprietors).			Year.	Employees (including Working Proprietors).		
	Metropolitan District.	Remainder of State.	Total.		Metropolitan District.	Remainder of State.	Total.
1906	52,605	25,217	77,822	1911	77,592	31,032	108,624
1907	57,247	29,220	86,467	1912	83,352	32,209	115,561
1908	60,974	28,124	89,098	1913	86,263	34,137	120,400
1909	63,777	27,925	91,702	1914-5	84,971	31,640	116,611
1910	69,950	29,761	99,711	1915-6	85,365	31,036	116,401

Under the classification of "Remainder of State" are included such urban centres as Newcastle, Broken Hill, Goulburn, Bathurst, Albury, and Orange, constituting parts of declared factory districts; yet it is significant that Sydney and the metropolitan suburbs constitute the chief manufacturing centre of the State, and that whereas the number of employees in the metropolitan district increased by 36,523, or nearly 75 per cent. since 1905, the increase for all other parts of the State was only 7,703 persons, or 33 per cent.

As already pointed out, this is due to priority of settlement, and to the incidence of development, combined with the facts that Sydney, situated on one of the finest and most accessible deep-water harbours in the world, is the port of distribution and exchange for practically the whole State, Newcastle having only recently begun in this connection, and as a manufacturing centre, to contest Sydney's hitherto unchallenged supremacy. Moreover, as all the State's manufacturing industries were operated by imported machinery, it was found convenient to erect mills and other establishments at the port of consignment, which was, in addition, the place of debarkation of the oversea operatives who took up their accustomed work at the end of their voyage. The modern tendency of manufacturing production favours, however, the erection of plant for treating raw material at or near the place of first supply, and to obviate the cartage over long distances of raw material to depôts for treatment.

Causes which have operated hitherto to restrict the development of manufacturing industries to the metropolitan area, and in a secondary sense to the seaboard, are the immense distances traversed by railroad, the consequent high cost of freight on finished articles, added to cost and risk of double-handling, and the great difficulty of securing and retaining workers.

The majority of manufacturing industrial workers emigrate from Great Britain under an understood, if not expressed, guarantee of a metropolitan habitat, and it requires great inducements in the shape of a continuance of the social life to which they have been accustomed, and high rates of remuneration, for them to venture far inland from the pleasures and conveniences of the city. Where, however, as in the case of Newcastle, or of Broken Hill, the environment is similar to that of their English experience, little difficulty is found in securing the maximum amount of labour required.

The following figures show the increase in the employees of both sexes:—

Year.	Metropolitan District.		Remainder of State.	
	Males.	Females.	Males.	Females.
1905	34,756	14,086	21,355	1,978
1915-16	59,087	26,278	28,637	2,399
Increase per cent.	70·0	86·6	34·1	21·3

Between the years 1914-15 and 1915-16 the metropolitan district showed an increase of 394 in the number of its manufacturing industrial workers, and the remainder of the State a loss of 604, or a total loss for the whole of

New South Wales of 210. But, in the meantime, the female workers in the metropolitan district increased by 2,390, and in the remainder of the State by 85, or a total gain in the whole of New South Wales of female workers of 2,475; and the corresponding loss in the number of male workers was, in the metropolitan district, 1,996, and in the remainder of the State 689, or a total loss for the whole of New South Wales of 2,685 male workers in manufacturing industries. Here is evidenced, in the increase of female workers and the decline of male workers, a correlation between male workers and female workers corresponding to that obtaining in Great Britain, though on a much smaller scale, due to the influence of the war on the conditions of labour. The succeeding table, relating to sex and age distribution, accentuates the loss of adult male workers from manufacturing industries.

SEX AND AGE DISTRIBUTION.

The following table shows the sex and age distribution of the persons engaged in manufactories from 1907, the first year that statistics respecting child employment were available.

Year.	Persons Employed in Manufactories, including Working Proprietors.								
	Adults.			Children under 16 years of age.			Adults and Children.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1907	63,547	18,634	82,181	2,406	1,880	4,286	63,953	20,514	86,467
1908	65,141	19,623	84,764	2,475	1,859	4,334	67,616	21,482	89,098
1909	66,751	20,545	87,296	2,433	1,973	4,406	69,184	22,518	91,702
1910	72,932	22,302	95,234	2,452	2,025	4,477	75,384	24,327	99,711
1911	79,609	24,274	103,883	2,474	2,267	4,741	82,083	26,541	108,624
1912	85,953	25,290	111,243	2,225	2,093	4,318	88,178	27,383	115,561
1913	90,651	25,278	115,929	2,385	2,086	4,471	93,036	27,364	120,400
1914-15	87,972	23,876	111,848	2,437	2,326	4,763	90,409	26,202	116,611
1915-16	85,146	26,072	111,218	2,578	2,605	5,183	87,724	28,677	116,401

The foregoing figures show a total decrease of manufacturing industrial workers of 210 persons for the year 1914-15 to 1915-16, including both sexes and all ages, or a total depletion of males to the extent of 2,685, with a corresponding total increase of 2,475 females. The actual adult male decrease amounted to 2,826, as there was an increase of 141 in the number of males under 16 years of age, and the total increase of adults, owing to an extension of the practice of child employment, was only 630. Of the total increase of 2,475 female workers in manufacturing industries, 2,196 were adults, and 279 were children under the age of 16 years.

The following statement shows the variations in the proportion of adults and children of each sex to the total number employed in each year since 1909.

	1909.	1910.	1911.	1912.	1913.	1914-15.	1915-16.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Adults—							
Males ...	72·79	73·14	73·29	74·37	75·29	75·44	73·15
Females ...	22·41	22·37	22·35	21·89	21·00	20·48	22·40
Total ..	95·20	95·51	95·64	96·26	96·29	95·92	95·55
Children under 16 years of age—							
Males ...	2·65	2·46	2·28	1·93	1·98	2·03	2·21
Females ...	2·15	2·03	2·08	1·81	1·73	1·99	2·24
Total ...	4·80	4·49	4·36	3·74	3·71	4·08	4·45
Grand Total.	100·00	100·00	100·00	100·00	100·00	100·00	100·00

The foregoing figures show that the proportion of juvenile labour, which in 1909 was 4·80, now stands at 4·45, or higher than that of any year since 1911. Each year, to 1913, showed a decline in the proportion, but in 1914-15, owing to causes created by the incidence of the war, with a consequent decrease in the number of male adults, the proportion of juveniles showed a corresponding increase.

WOMEN AND JUVENILES.

For reasons already discussed, the average number of women and juveniles engaged in manufacturing industries has increased by more than fourfold since 1896. In proportion to the total employment of men, women and juveniles, the increase in the number of women and juveniles was considerably higher in 1915-16 than in any year shown in the following table.

Year.	Proportion to Total Average Employment.				
	Females.		Males— Juvenile.	Total— Women and Juveniles.	Adult Males.
	Adult.	Juvenile.			
	per cent.	per cent.	per cent.	per cent.	per cent.
1896	13·61	0·30	1·09	15·00	85·00
1901	17·19	0·44	1·19	18·82	81·18
1906	22·18	0·75	1·13	24·06	75·94
1911	22·35	2·08	2·28	26·71	73·29
1912	21·89	1·81	1·93	25·63	74·37
1913	21·00	1·73	1·98	24·71	75·29
1914-15	20·48	1·99	2·09	24·56	75·44
1915-16	22·40	2·24	2·21	26·85	73·15

Even the raising of the age limit of so-called juvenile labour from 15 to 16 years would not, prior to the outbreak of the war, account for the fall from 85·0 per cent. to 75·29 per cent. in the proportion of males above those ages to the total number of workers employed during the year 1913, and coincidentally the increase of woman and juvenile labour from 15·0 per cent. to 24·71 per cent. during the same year. In 1914-15 the proportion of woman and juvenile labour fell to 24·56 per cent., but rose during the year ending 30th June, 1916, to 26·85 per cent., the highest figures shown in the foregoing table.

The following table shows, at intervals since 1901, the industries in which women and girls have been employed in greatest numbers, and the proportion to every hundred males employed in the same industries.

Industry.	Average Number of Women and Girls.					Proportion per 100 Males.				
	1901.	1911.	1913.	1914-15.	1915-16.	1901.	1911.	1913.	1914-15.	1915-16.
Food, etc.—										
Aerated waters ...	49	152	139	129	120	4	11	10	10	10
Biscuits ...	350	705	846	752	759	71	108	113	114	121
Condiments, Coffee, and Spices ...	167	216	237	236	259	42	102	101	95	109
Confectionery ...	225	483	489	532	632	39	64	52	53	63
Cornflour, Oatmeal	71	199	256	303	263	46	73	89	100	91
Jam and Fruit Canning	140	449	396	316	358	28	114	105	81	85
Meat and Fish Preserving ...	24	121	157	175	68	3	13	15	16	23
Pickles, Sauces, and Vinegar ...	58	174	184	184	202	129	125	102	101	114
Tobacco ...	428	755	805	978	1,085	71	112	116	125	123
Clothing, etc.—										
Dressmaking and Millinery ...	2,526	5,053	4,814	4,394	5,005	4,141	5,677	4,150	4,069	3,627
Hats and Caps ...	198	1,029	975	918	1,044	150	192	171	180	203
Waterproofs and Oilskins ...	290	98	77	68	149	203	377	233	324	292
Shirts, Ties and Scarfs ...	337	1,655	1,950	1,734	1,934	1,021	1,191	1,089	1,070	1,179
Slop Clothing ...	2,636	5,503	4,910	4,258	4,822	434	528	541	518	533
Tailoring ...	1,437	3,004	3,424	3,328	3,041	100	136	147	160	171
Woollen and Tweed Mills ...	72	389	416	576	668	44	111	116	152	133
Hosiery and Knitted Goods ...		180	320	416	522		529	533	586	62
Sails, Tents, and Tarpaulins ...	86	245	272	244	263	88	147	131	115	144
Boots and Shoes ...	1,118	1,593	1,559	1,471	1,659	39	57	58	56	65
Chemicals, Drugs and Medicines ...	66	365	329	269	396	20	79	71	72	74
Furnishing Drapery, Bedding, etc. ...	128	271	357	386	388	7	58	63	71	68
Printing and Book-binding ...	703	1,539	1,821	1,635	1,732	16	26	27	27	29
Paper, Paper Bags, and Boxes ...	148	754	778	760	766	149	157	154	133	129
Other industries	417	1,609	1,853	2,040	2,512	1	3	3	3	4
Total ...	11,674	26,541	27,364	26,202	28,677	21	32	29	29	33

The number of males operating in the specified manufacturing industries shown in the foregoing table was 19,709, and of females 26,165, leaving a balance in "Other industries" of 68,015 males and 2,512 females, or nearly 4 of the latter to every 100 of the former. The industries employing the greatest amount of female labour are grouped in Class VII—Clothing and Textile Fabrics, etc.; Class VI—Food and Drink, etc.; and Class VIII—Books, Paper, Printing, etc. Of fifteen orders under Class VII twelve are enumerated in the above table, the orders sailmaking, and tents and tarpaulins, being bracketed together. The orders not given in this class are dye-works and cleaning, furriers, and rope and cordage. In 1915-16 there were 116 persons (68 males and 48 females) employed in dye-works and cleaning, 59 persons (22 males and 37 females) as furriers, and 301 persons (290 males and 11 females) in rope and cordage works. In former years Hosiery and Knitted Goods were grouped with Woollen and Tweed Mills, but they now constitute an order by themselves.

In Class VI there are twenty-one orders, of which nine are detailed above as employing female labour. The remaining twelve were bacon-curing, butter factories, butterine and margarine, cheese, condensed milk, flour mills, sugar mills, sugar refinery, breweries, distilleries, ice and refrigerating, and malting. The males employed in manufacturing industries representing these orders numbered 5,375, and the females 1,200. Class VIII includes electrotyping and stereotyping; paper-making, paper-boxes, bags, etc.; photo-engraving; and printing and binding; and females employed in the second and fourth of the series are shown in the above table. Under the order electrotyping and stereotyping 87 persons were classified, of which number 6 only were females; under the order photo-engraving 176 persons were classified, of which number 20 were females. Class XIV includes, besides the order relating to chemicals, drugs, and medicines, three sub-orders relating to baking-powder and self-raising flour, paints and varnishes, and inks, polishes, etc., including fertilisers. These three orders together accounted for the employment of 761 persons, of which number 481 were males and 280 were females.

Class XIII, besides the orders employing female labour as shown above, namely, bedding, flock, and upholstery, grouped with furnishing drapery, etc., includes the four additional orders of chair-making, furniture and cabinet-making and billiard tables, picture frames and window blinds. The four together represented the employment of 2,503 persons, of which number only 80 were females.

Fourteen classes are not shown in the foregoing table. Of these Class XIX—Minor Wares exhibited the largest employment of females, namely, 547, as against 1,008 males. This class included manufactures of baskets and wickerware, matting, etc., brooms and brushware, rubber goods, toys, umbrellas, and other industries. Of 524 persons engaged in the manufacture of rubber goods, 215 were females. Class V was next in order in the employment of females. This class includes persons working in the manufacture of agricultural and other implements, art metal works, brass and copper, cutlery, engineering, galvanized iron working, iron works and foundries, railway carriages, rolling-stock, etc., railway and tramway workshops, smelting, stoves and ovens, tinsmithing, wire-working, and other metal works (including nails and lead mills). Class V, in all its fourteen orders, represented the employment of 27,967 persons, of which number 27,531 were males and 436 were females. The order tinsmithing represented the employment of 198 females out of a total of 1,044 persons.

Class II, representing manufacturing industries in oils and fats, came next in order in the employment of females. This class includes persons,

arranged in two orders, who are engaged in the treatment of oil and grease, and in the manufacture of soap and candles. In the whole class were enumerated 1,103 persons, of which number 888 were males and 215 were females. Of 267 persons engaged in the treatment of oil and grease 10 only were females, but of 836 persons manufacturing soap and candles 205 were females. Of 582 persons arranged under Class XVIII—Leather Belting, Portmanteaux, Bags, etc. 413 were males and 169 were females.

Class XI includes 6 orders, viz., coach and waggon building, cycles and motors, perambulators, saddlery, harness, etc., spokes, etc., and whips. The whole class employed the labour of 4,049 persons, of which number 3,941 were males and 108 were females, and of these 51 were engaged in saddlery and harness making. Class I—Treating Raw Material, etc.—included the five orders, boiling-down, tallow-refining, etc., sausage skins, etc., tanneries, wool-scouring and fellmongering, and chaff-cutting, corn-crushing, etc. Of 3,528 persons arranged under this class 94 were females, of which number 75 were classified under wool-scouring and fellmongering. Class XVI—Jewellery, Timepieces and Plated-ware includes two orders, viz., electroplating, and manufacturing jewellery, etc. The class engaged the services of 688 persons, including 87 females, of which number 72 were engaged in the second order, manufacturing jewellery. Class IV—Working in Wood included the five orders, boxes and cases, cooperage, joinery, saw-mills, and wood-turning, wood-carving, etc. In the whole class were 7,397 persons, inclusive of 80 females. Of these females 44 were classified under saw-mills and 24 under joinery.

Class III—Stone, Clay, Glass, etc. contained six orders, viz., bricks and tiles, glass (including bottles), glass (ornamental), lime, plaster, cement, and asphalt, marble, slate, and stone dressing, pottery and earthenware (including modelling, etc.). Of 5,470 persons employed under this classification 67 were females, and of these 35 were listed under the order bricks and tiles, and 13 under the order ornamental glass. Class IX—Musical Instruments, etc. including sewing machines, represented the employment of 381 persons, of which number 44 were females. Of 115 persons arranged under Class XV—Surgical, and other Scientific Instruments 27 were females. Class XVIII—Heat, Light, and Power included the six orders, coke works, electric apparatus, electric light and power, gas works and kerosene, lamps, fittings, etc. and hydraulic power. Of 3,728 persons employed under this classification 27 were females, and of these 14 were listed under the order electric apparatus. Of 1,243 persons employed in the manufacture of arms and explosives (Class X) 5 were females; and of 3,223 persons employed in ship and boat-building and repairing (Class XII) 4 were females, 3 being classified under the second order ship and boat-building and repairing, and one under the first order docks and slips.

In 1896 the proportion of females to every hundred males employed was 16. Between 1901 and 1911 the increase in the proportion was greater relatively than in the years prior to 1901, and in the fifteen years 1896–1911 the proportion rose from 16 to 32. The proportion in 1914–15 was 29 females per 100 males, and in 1915–16 it was 33, due to a dilution of male labour in manufacturing industries. The increase of females per 100 males as shown in the foregoing table during the year 1915–16 on the figures of 1914–15 amounted to 109 in the order shirts, ties, and scarfs; to 35 in the order hosiery and knitted goods; to 29 in the two orders sailmaking, and tents and tarpaulins; to 23 in the order hats and caps; to 15 in the order slop clothing; to 14 in the order condiments, coffee, spices, etc.; to 13 in the order pickles, sauces, and vinegar; to 11 in the order tailoring; to 10 in the order

confectionery; to 9 in the order boots and shoes; to 7 in each of the orders biscuits, and meat and fish preserving; and to 2 in each of the orders drugs, chemicals and medicines, and printing and book-binding.

The foregoing table shows decreases in the number of females to 100 males in the following orders, namely, dressmaking and millinery, 442; waterproof and oilskin clothing, 32; woollen and tweed mills, 19; cornflour, oatmeal, etc., 9; paper-making, paper bags, boxes, etc., 4; bedding, flock, and upholstery, and furnishing drapery, etc., 3; and tobacco, cigars, etc., 2.

This is the more curious in view of the fact that only one order of the preceding seven showed a decline in the total number of persons engaged, and that was the order cornflour, oatmeal, etc., and the number of workers classified thereunder was 56 less than during the year 1914-15. The total number of workers classified under dressmaking and millinery showed an increase on the figures of the past year of 641, woollen and tweed mills of 214, tobacco, cigars, etc. of 206, paper-making, paper bags, boxes, etc. of 176, waterproof and oilskin clothing of 111, and bedding, flock and upholstery, and furnishing drapery, etc. of 34.

OCCUPATIONAL STATUS.

Of all the persons engaged in manufacturing industries during the year 1915-16, approximately 84 per cent. were actually employed in the different processes of manufacture, or in the sorting and packing of finished articles.

The following statement shows the occupational status of the persons engaged in each class of industry for 1915-16.

Class of Industry.	Working Proprietors, Managers, and Overseers.	Clerks, etc.	Engine-drivers, etc.	Workers in Factory Mill, etc.	Carters, Messengers, and others.	Persons regularly employed at their own homes.	Total.
Treating Raw Material, etc. ...	367	80	185	2,776	119	1	3,528
Oils, Fats, etc. ...	70	113	29	865	24	2	1,103
Processes in Stone, Clay, Glass, etc. ...	373	184	201	4,362	350	...	5,470
Working in Wood ...	837	399	382	5,459	320	...	7,397
Metal Works, Machinery, etc. ...	1,092	1,057	511	24,979	327	1	27,967
Connected with Food, Drink, etc. ...	1,071	985	745	11,089	518	1	14,409
Clothing, Textile Fabrics, etc. ...	1,502	423	45	23,704	222	544	26,440
Books, Paper, Printing, etc. ...	800	685	43	7,620	211	9	9,368
Musical Instruments, etc. ...	18	45	1	312	5	...	381
Arms and Explosives ...	21	24	3	1,190	5	...	1,243
Vehicles and Fittings, Saddlery, etc. ...	528	163	14	3,242	95	7	4,049
Ship and Boat-building, etc. ...	76	130	25	2,868	124	...	3,223
Furniture, Bedding, and Upholstery ...	315	82	10	2,999	54	4	3,464
Drugs, Chemicals, and By-products ...	115	142	29	1,335	69	1	1,691
Surgical and other Scientific Instruments ...	19	11	...	78	7	...	115
Jewellery, Timepieces, and Plated Ware... ..	66	52	1	547	22	...	688
Heat, Light, and Power ...	237	157	560	2,341	432	1	3,728
Leatherware, N.E.I. ...	42	43	2	493	2	...	582
Minor Wares, N.E.I. ...	121	46	12	1,340	30	6	1,555
Total ...	7,670	4,821	2,798	97,599	2,936	577	116,401

The foregoing table contains an interesting column headed "Persons regularly employed at their own homes," of whom the number recorded in the year 1914-15 was 582, and in the year 1915-16 was 577. The majority (544 persons) were grouped under Class VII—Clothing and Textile Fabrics; 9 were engaged under Class VIII—Books, Paper, Printing, etc.; 7 under Class XI—Vehicles, Fittings, and Saddlery; 6 under Class XIX—Minor Wares, *N.E.I.*; 4 under Class XIII—Furniture, Bedding, and Upholstery; 2 under Class II—Oils and Fats; and 1 each under Class I—Treating Raw Material, Class V—Metal Works and Machinery, Class VI—Food and Drink, Class XIV—Drugs, Chemicals, and By-Products, and Class XVII—Heat, Light, and Power.

Under Clothing and Textile Fabrics 65 males and 29 females were regularly employed in their own homes in boots and shoes, 5 males and 169 females in slop clothing, 13 males and 97 females in tailoring (including 2 males and 16 females engaged outside the metropolitan district), 9 females in waterproofs and oilskins, 1 male and 121 females in dressmaking and millinery—makers' materials (including 1 female engaged outside the metropolitan district), 4 females in dressmaking and millinery—customers' materials, and 1 male and 30 females in shirts, ties, and scarfs. Except where otherwise indicated all these regularly employed workers in their own homes resided and were engaged within the boundaries of the metropolitan district.

Under Books, Paper, Printing, etc., one female was regularly employed in her own home in paper-making, paper boxes, bags, etc., in the metropolitan district, and 3 males and 5 females were regularly employed in their own homes in printing and binding, outside the metropolitan district. Under Vehicles, Fittings, and Saddlery, 1 female was regularly employed in her own home in cycles and motors, in the metropolitan district, one man in the metropolitan district and 1 man outside the metropolitan district were employed in saddlery, harness, etc., 1 man in the metropolitan district in whips, 1 man outside the metropolitan district in coach and waggon building, and 2 men outside the metropolitan district in spokes.

Under Minor Wares one male and one female in the metropolitan district and 4 males outside the metropolitan district were regularly employed in their own homes in brooms and brushware. Under Furniture, Bedding and Upholstery, 1 female in the metropolitan district was regularly employed in her own home in furnishing drapery, etc., and 3 males were regularly employed in their own homes outside the metropolitan district in furniture and cabinet-making. Under Oils and Fats 2 females were regularly employed in their own homes outside the metropolitan district in soap and candles. Of others regularly employed in their own homes there were in the metropolitan district one male (woolscouring and fellmongering), one female (wire-working), one female (pickle, sauces, and vinegar), one female (baking-powder, etc), and one male (electric apparatus).

CAPITAL INVESTED IN PREMISES.

With regard to capital invested in manufacturing industries, full particulars are not available, and the amount employed as working capital cannot be ascertained. Where the land, buildings, and fixtures in use for manufacturing purposes are the property of the occupier the estimated value is recorded; where they are not the property of the occupier the rental value is recorded.

The following statement shows the extent to which, since 1908, the capital value and the rental value of premises have both increased, and have been

accompanied by an increase in the value of the plant and the machinery installed.

Year.	Premises.			Value of Machinery, Tools, and Plant.
	Capital Value when occupier is owner.	Value of Rented Premises, based on the rent paid, capitalised at 15 years' purchase.	Total Capital Value.	
	£	£	£	£
1908	6,508,164	3,686,340	10,194,504	9,718,842
1909	6,625,066	4,114,965	10,740,031	10,330,724
1910	7,208,392	4,594,110	11,802,502	11,578,620
1911	8,126,487	5,013,720	13,140,207	12,510,600
1912	8,833,266	5,561,760	14,395,026	13,795,195
1913	9,598,713	5,806,305	15,405,018	14,861,676
1914-15	10,916,283	5,927,415	16,843,698	16,866,982
1915-16	11,892,032	5,878,485	17,770,517	18,211,104
Percentage increases, 1908-1916 ...	82·72	59·47	74·31	87·38

The annual value of the land, buildings and fixtures, used in connection with manufactories and works is shown in the following table for each class of industry as conducted in the metropolitan district, in the remainder of the State, and in New South Wales as a whole. In stating the value of land and buildings, that of rented premises has been included on the basis of a capitalisation at 15 years' purchase.

Class of Industry.	Metropolitan District.		Remainder of State.		New South Wales.	
	Land, Buildings, and Fixtures.	Plant and Machinery.	Land, Buildings, and Fixtures.	Plant and Machinery.	Land, Buildings, and Fixtures.	Plant and Machinery.
	£	£	£	£	£	£
Treating Raw Material, etc.	284,658	270,203	103,091	127,179	387,749	397,382
Oils, Fats, etc. ...	250,073	279,866	41,393	65,838	291,466	345,704
Stone, Clay, Glass, etc.	597,944	469,888	296,484	628,337	894,428	1,098,225
Working in Wood ...	635,007	361,048	295,683	441,317	930,690	802,365
Metal Works, Machinery, etc.	2,431,323	2,073,367	730,871	2,883,451	3,162,194	4,956,818
Food, Drink, etc. ...	2,381,041	2,126,970	1,176,167	1,477,729	3,557,208	3,604,699
Clothing, Textile Fabrics, etc.	1,841,491	516,353	329,940	109,791	2,171,431	626,144
Books, Paper, Printing, etc.	1,529,004	1,016,451	202,070	260,551	1,731,074	1,277,002
Musical Instruments, etc.	56,600	13,866	...	...	56,600	13,866
Arms and Explosives ...	9,263	1,463	79,781	172,099	89,044	100,551
Vehicles, Fittings, Saddlery, etc.	480,258	76,941	225,137		705,395	149,952
Ship and Boat Building, etc.	821,713	397,443	4,120	1,438	825,833	398,881
Furniture, Bedding, etc.	436,305	66,826	28,680	8,684	464,985	75,510
Drugs, Chemicals, etc...	345,466	123,033	63,310	115,710	408,779	238,743
Surgical Instruments, etc.	32,945	4,939	1,170	910	34,115	5,099
Jewellery, Timepieces, and Plated Ware, etc.	120,315	29,425	4,380		124,695	30,175
Heat, Light, and Power	1,426,482	2,742,820	275,053	1,219,813	1,701,535	3,962,633
Leatherware, N.E.I. ...	62,586	14,718	...	...	62,586	14,718
Minor Wares, N.E.I. ...	165,062	110,342	5,648	2,295	170,710	112,637
Total ...	13,907,536	10,695,962	3,862,981	7,515,142	17,770,517	18,211,104

MACHINERY AND PLANT.

In 1896, the value of machinery and plant used in manufacturing, including machinery and engines of indicated horse-power, in addition to all other tools and implements used in the various processes of manufacture, as well as the conveyance plant, was assessed at £5,035,905. The value had increased to £5,860,725 in 1901, and was £18,211,104 in 1915-16.

Particulars have been given in a preceding table of the number of establishments in which machinery was installed, as compared with those not so equipped. The most powerful machinery is used in the supply of heat, light and power, in the manufacture of machinery and in metal work, and in the preparation of food and drink, while in the clothing industries machinery enters into use to a less extent.

In the following table are shown comparative figures for each of the last ten years, with the number of establishments using machinery, the aggregate value of the plant, etc., and the indicated and developed horse-power. The term "full capacity" indicates the power which can be generated by the boilers or the machinery, and "average used" represents the power generally applied in carrying on the processes of manufacture.

Year.	Establishments equipped with Machinery.	Value of Machinery, Tools, and Plant.	Power of Engines.	
			Full Capacity.	Average Used.
		£	h.p.	h.p.
1906	2,496	8,407,337	97,244	74,756
1907	2,761	9,155,772	108,257	81,293
1908	2,907	9,718,842	116,571	88,109
1909	3,089	10,330,724	145,349	99,327
1910	3,288	11,578,620	155,590	114,871
1911	3,550	12,510,600	185,089	127,547
1912	3,775	13,795,195	212,561	147,961
1913	3,974	14,861,676	220,779	156,612
1914-15	3,987	16,866,982	241,792	175,438
1915-16	4,077	18,211,104	278,363	193,096

The capacity of engines as shown is exclusive of electrical power, which is dependent on steam or other engines for its development, as such power is credited to their agency. The figures relating to establishments and value of machinery, etc., are inclusive of machinery for the generation of electricity.

For manufacturing purposes, the power used for driving machinery is derived to a very considerable extent from steam; in some instances, chiefly in the metropolitan district, gas is employed. Other agencies are used only to a limited extent, and although there are electric engines of considerable voltage, they are employed mainly for lighting and tramway purposes, and the generation of their power is usually dependent upon some other class of engine.

The subjoined table shows the distribution of motive power through the various agencies of steam, gas, electricity (generated by steam-power), water and oil, expressed in units of horse-power, for each of the ten years comprising the decennium which ended in 1915-16.

Year.	Horse-power of Machinery (Average used).				
	Steam.	Gas.	Electricity.	Water.	Oil.
1906	65,914	4,312	8,989	75	277
1907	66,620	4,901	10,072	101	429
1908	80,894	6,578	10,937	154	483
1909	89,917	8,658	11,773	209	543
1910	103,857	10,123	15,991	197	649
1911	113,939	12,201	20,671	222	1,185
1912	130,479	16,028	26,652	273	1,181
1913	141,025	13,802	35,885	307	1,478
1914-15	158,718	14,552	50,179	283	1,885
1915-16	177,162	13,926	58,075	319	1,689

Since the preceding year steam-power in the whole State has increased by 18,744 h.p., electric-power by 7,909 h.p., and water-power by 36 h.p., while gas-power has decreased by 626 h.p., and oil-power by 196 h.p. The reference to the increase of electric-power must be considered with the qualification already expressed in connection with its generation by steam or other agency.

The source of the power used in the years 1911, 1913, 1914-15, and 1915-16 is shown in the following table.

Source.	Developed Horse-power.				Proportion of Total.			
	1911.	1913.	1914-15.	1915-16.	1911.	1913.	1914-15.	1915-16.
					per cent.	per cent.	per cent.	per cent.
Steam ...	113,939	141,025	158,718	177,162	76·87	73·26	70·35	70·53
Gas ...	12,201	13,802	14,552	13,926	8·23	7·17	6·45	5·55
Electricity ...	20,671	35,885	50,179	58,075	13·95	18·64	22·24	23·12
Water ...	222	307	283	319	0·15	0·16	0·12	0·13
Oil ...	1,185	1,478	1,885	1,689	0·80	0·77	0·84	0·67
Total ...	148,218	192,497	225,617	251,171	100·00	100·00	100·00	100·00

The distribution of the various kinds of power, and the value of fuel used and the cost of power rented, among the different classes of industries, in 1915-16, was as follow:—

Class of Industry.	Horse-power of Machinery in use.										Value of Fuel Consumed, including Motive Power rented.
	Full Capacity.					Average used.					
	Steam.	Gas.	Electricity.	Water.	Oil.	Steam.	Gas.	Electricity.	Water.	Oil.	
Treating Raw Material: Product of											£
Pastoral Pursuits, etc.	4,472	1,115	2,279	4	98	3,248	778	1,932	4	76	48,105
Oils and Fats: Animal, Vegetable . .	1,026	11	772	..	..	688	10	677	..	..	26,221
Processes in Stone, Clay, Glass, etc. .	11,658	1,931	6,788	150	115	8,793	1,219	4,416	120	94	209,186
Working in Wood	14,686	1,160	9,695	45	122	10,645	851	6,952	36	102	21,022
Metal Works, Machinery, etc.	44,432	2,735	85,256	..	297	27,104	2,036	22,863	..	235	536,884
Connected with Food, Drink, etc. . .	21,959	4,694	9,074	1	277	14,502	3,283	7,101	1	178	209,112
Clothing, Textile Fabrics, and											
Materials	2,178	1,236	3,787	1	..	1,869	1,090	3,423	1	..	47,613
Books, Paper, Printing, etc.	1,476	1,285	4,494	3	236	1,033	918	3,598	2	163	43,009
Musical Instruments, etc. . . . .	..	..	214	..	..	..	..	209	..	..	250
Arms and Explosives . . . . .	..	4	42	..	40	..	356	2	21	..	8
Vehicles and Fittings, Saddlery, etc. .	292	637	927	..	240	190	452	783	..	173	15,284
Ship and Boat Building, etc.	2,086	39	2,213	..	4	1,912	37	690	..	3	16,782
Furniture, Bedding, and Upholstery	316	431	1,896	..	56	248	332	1,655	..	46	8,868
Drugs, Chemicals, and By-Products	333	263	1,704	..	3	219	220	1,314	..	2	16,592
Surgical and other Scientific Instru-											
ments . . . . .	..	1	17	..	..	..	1	13	..	..	331
Jewellery, Timepieces, and Plated											
Ware . . . . .	..	43	272	..	..	..	33	237	..	..	1,890
Heat, Light, and Power	150,392	3,528	2,472	290	772	106,014	2,438	1,498	155	605	312,961
Leatherware, N.E.L.	10	115	88	..	..	6	102	71	..	..	1,047
Minor Wares, N.E.L.	304	79	705	..	4	335	94	583	..	4	5,191
Total	256,218	19,387	82,097	494	2,261	177,162	13,926	58,075	319	1,689	1,528,220

SALARIES AND WAGES.

The figures representing salaries and wages, as stated throughout this chapter, are exclusive of amounts drawn by working proprietors.

The salaries and wages paid to employees in manufactories and works amounted in 1915-16 to £13,413,845; male workers received £11,888,028, or £141 9s. 1d. per head; and female workers £1,525,817, or £53 14s. 6d. per head. A comparison of the total amount of salaries and wages paid during each year of the decennium, 1906-16, is shown below, also the average amount received and the average time worked per employee.

Year.	Salaries and Wages (exclusive of drawings by Working Proprietors).				Average time worked per Employee.
	Total.	Average per Employee.			
		Male.	Female.	Total.	
	£	£ s. d.	£ s. d.	£ s. d.	months.
1906	5,591,888	.....	.....	77 9 6	11·45
1907	6,650,715	.....	.....	80 12 7	11·43
1908	7,218,556	.....	.....	84 14 5	11·51
1909	7,665,125	103 19 3	37 18 1	87 5 5	11·46
1910	8,687,007	107 16 8	40 1 7	90 16 4	11·51
1911	10,047,662	114 4 9	43 2 1	96 7 1	11·55
1912	11,592,052	122 10 4	48 7 9	104 8 10	11·59
1913	12,683,384	127 15 4	50 5 10	109 13 2	11·62
1914-15	12,667,721	130 19 3	52 18 10	112 18 11	11·46
1915-16	13,413,845	141 9 1	53 14 6	119 5 11	11·56

In 1905 the general average amounted to £77 12s. 2d. per worker; in 1906 it was somewhat less, but since 1907 it has increased steadily; in 1914-15 it was 42 per cent. higher than in 1906, and in 1915-16 it was nearly 55 per cent. higher.

In 1915-16 the largest amount of wages was paid in the class metal works and machinery, namely, £4,065,413 out of a total of £13,413,845; next in order are the classes clothing and textiles, and food and drink.

The amounts paid in each class of industry during the years 1911, 1914-15, and 1915-16, were as follow:—

Class of Industry.	Salaries and Wages (exclusive of drawings by Working Proprietors).					
	Total Amount.			Average amount per employee.		
	1911.	1914-15.	1915-16.	1911.	1914-15.	1915-16.
	£	£	£	£ s. d.	£ s. d.	£ s. d.
Treating Raw Material, etc.	326,218	385,039	392,654	90 3 10	108 6 10	119 4 9
Oils, Fats, etc.	67,228	101,859	119,678	78 7 1	104 0 10	110 8 1
Stone, Clay, Glass, etc.	601,906	776,997	701,305	110 16 7	129 0 6	132 14 11
Working in Wood	732,465	890,237	831,684	97 8 7	118 5 1	121 6 10
Metal Works, Machinery, etc.	2,728,286	3,391,462	4,065,413	121 15 4	130 18 7	147 13 1
Connected with Food, Drink, etc.	1,301,076	1,709,597	1,618,761	95 12 1	114 8 11	115 14 11
Clothing, Textile Fabrics, etc.	1,633,509	1,785,377	1,932,134	63 17 0	74 11 11	75 10 6
Books, Paper, Printing, etc.	868,868	1,080,923	1,105,061	100 4 1	122 6 11	123 4 5
Musical Instruments, etc.	43,755	44,653	51,297	115 9 0	129 16 1	137 3 2
Arms and Explosives	1,971	81,499	239,457	67 19 4	117 5 3	193 5 4
Vehicles and Fittings, Saddlery, etc.	391,955	433,016	449,609	87 12 5	117 14 7	123 0 11
Ship and Boat building, etc.	305,032	666,916	520,174	127 14 9	143 10 10	162 9 1
Furniture, Bedding, and Upholstery, etc.	354,368	389,634	385,898	106 9 0	113 18 7	119 3 9
Drugs, Chemicals and By-products	124,844	147,435	170,526	87 15 11	97 10 2	102 12 1
Surgical and other Scientific Instruments	8,202	11,193	13,410	94 5 6	116 12 11	128 18 10
Jewellery, Time-pieces and Plated Ware.	75,042	89,769	89,846	105 19 10	134 3 8	138 17 4
Heat, Light, and Power	370,547	523,234	529,133	133 17 4	142 12 2	143 9 6
Leatherware, N.E.I.	36,789	46,886	56,800	83 19 10	92 13 2	102 3 2
Minor Wares, N.E.I.	74,101	108,990	141,094	73 5 11	90 0 0	94 5 0
Total	10,047,662	12,667,721	13,413,845	96 7 1	112 18 11	119 5 11

The increase in the average amount paid per employee has been general throughout every class of industry. The high increase in the Class—Arms and Explosives is the result of the establishment of the Commonwealth Small Arms Factory, where highly skilled labour is engaged; but in other classes, including those connected with raw material, with oils and fats, with timber, with metals and machinery, with food and drink, with books, paper and printing, with musical instruments, with ship and boat building, with furniture, bedding and upholstery, with drugs and chemicals, with surgical and scientific instruments, with certain minor wares, with stone, clay and glass, with clothing and textile fabrics, with vehicles and saddlery, with jewellery, and with leatherware, the increase since 1906 exceeds 40, in some cases 50, and even 70 per cent. In Class XVII—Heat, Light, and Power the increase in wages upon those received in 1906 was about 24 per cent., but the average amount per employee was as high as £143 9s. 6d. This was exceeded by those in Class X—Arms and Explosives, who received £193 5s. 4d. per employee; by Class XII—Ship and Boat building, etc. who received £162 9s. 1d. per employee; and by Class V—Metal Works, Machinery, etc. who received £147 13s. 1d. per employee.

Reverting to Class X—Arms and Explosives, it must be remembered that the high rate of increase in the average amount paid per employee in wages and salaries does not apply generally, and is confined to the Small Arms Factory at Lithgow, which is an enterprise of the Military Department of

the Commonwealth Government. The total number of males engaged under this classification was 1,243, of which number 1,213 were employees of the Commonwealth. The amount distributed in wages and salaries amongst the remaining 30 males belonging to this class was £2,751, or an average of £91 14s. per employee.

The average amount per employee is lowest in the class clothing and textiles, where women and juveniles are largely in excess of adult male workers, in minor wares, in drugs and chemicals, in leatherware, and in establishments treating raw pastoral products, where employment is intermittent.

Since 1909 particulars have been obtained of the amounts paid to males and females respectively, and the following comparison shows the average earning per employee of each sex in 1913, in 1914-15, and in 1915-16. During the period the general average for male employees has increased by £37 9s. 10d., or 36 per cent., and for females by £15 16s. 5d., or nearly 42 per cent.; but no allowance has been made for intermittent employment, skilled or unskilled labour, or other important factors affecting the comparison. Available information indicates that the mean average time worked in all industries, 11·56 months, was lower than in 1912 and 1913, but higher than in 1911 and 1914-15; and that the proportion of employees under 16 years of age was $3\frac{1}{2}$ per cent. of males and $8\frac{1}{4}$ per cent. of females in the earlier year, as compared with slightly over 3 per cent. of males and almost 10 per cent. of females in 1915-16.

Class of Industry.	Average Annual Amount of Wages per Employee, excluding Working Proprietors.					
	Males.			Females.		
	1913.	1914-15.	1915-16.	1913.	1914-15.	1915-16.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Treating Raw Material: Product of Pastoral Pursuits, etc.	101 15 3	109 11 8	121 1 2	51 12 0	56 5 6	55 17 5
Oils and Fats: Animal, Vegetable. . .	104 12 1	117 15 1	123 7 2	48 8 11	50 19 5	58 0 9
Processes in Stone, Clay, Glass, etc. . .	120 8 6	129 12 10	133 13 5	43 10 11	54 13 7	55 3 3
Working in Wood	114 2 7	118 14 8	121 18 7	60 3 11	66 8 6	70 18 11
Metal Works, Machinery, etc.	136 6 0	131 15 11	149 2 1	57 2 5	61 4 1	57 8 3
Connected with Food, Drink, etc. . . .	125 2 8	135 3 9	139 18 9	48 0 0	50 16 7	52 13 9
Clothing, Textile Fabrics, etc.	126 2 1	129 4 0	138 12 5	51 0 7	52 13 3	53 11 6
Books, Paper, Printing, etc.	141 2 9	148 16 10	150 11 8	47 4 7	51 11 8	52 19 7
Musical Instruments, etc.	136 8 3	136 6 0	149 9 5	49 4 1	57 6 0	42 7 5
Arms and Explosives	131 13 0	117 16 0	193 18 1	50 6 0	43 0 0	38 0 0
Vehicles and Fittings, Saddlery, etc. . .	111 9 5	118 19 10	124 12 10	64 1 11	70 15 8	68 12 1
Ship and Boat Building, etc.	140 6 10	143 11 6	162 10 11	100 0 0	71 10 0	89 0 0
Furniture, Bedding, and Upholstery . .	121 11 10	123 17 7	129 10 11	48 1 2	50 18 9	57 5 7
Drugs, Chemicals, and By-Products . . .	137 17 2	134 18 6	138 15 5	47 15 3	45 8 1	49 11 8
Surgical and other Scientific Instruments	140 9 7	128 13 3	153 8 7	64 3 4	63 10 0	59 2 3
Jewellery, Timepieces, and Plated Ware..	130 3 5	142 11 8	148 19 7	68 0 11	69 12 3	73 15 2
Heat, Light, and Power	140 16 1	143 7 4	143 19 11	60 12 8	62 12 1	69 15 5
Leather, N.E.L.	113 2 1	105 9 8	117 0 6	52 3 4	53 11 4	68 2 4
Minor Wares, N.E.L.	101 13 1	105 16 2	117 13 0	48 15 4	49 8 3	53 7 7
Total	127 15 4	130 19 3	141 9 1	50 5 10	52 18 10	53 14 6

The following are the index levels of the average annual amount of wages paid to the total number of employees in manufactories and works during the years 1906-16.

Wages in 1911=1,000.

Class of Industry.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914-15.	1915-16.
Treating Raw Material, etc.	749	777	838	846	962	1,000	969	1,113	1,201	1,322
Oils, Fats, etc.	873	954	1,030	1,029	1,042	1,000	1,100	1,173	1,328	1,409
Processes in Stone, Clay, Glass, etc. ..	765	808	868	922	883	1,000	1,104	1,080	1,164	1,198
Working in Wood	838	891	901	931	947	1,000	1,107	1,168	1,214	1,245
Metal Works, Machinery, etc.	842	873	919	932	962	1,000	1,083	1,114	1,075	1,213
Connected with Food, Drink, etc. ..	813	815	842	897	957	1,000	1,037	1,113	1,198	1,211
Clothing, Textile Fabrics, etc.	766	781	880	869	923	1,000	1,083	1,125	1,168	1,183
Books, Paper, Printing, etc.	877	886	880	957	981	1,000	1,103	1,153	1,221	1,230
Musical Instruments, etc.	803	826	838	912	932	1,000	1,055	1,107	1,124	1,188
Arms and Explosives	1,219	1,282	1,114	1,242	729	1,000	1,910	1,905	1,725	2,844
Vehicles and Fittings, Saddlery, etc. ..	875	907	909	981	1,078	1,000	1,217	1,282	1,344	1,404
Ship and Boat building, etc.	848	1,007	976	986	887	1,000	1,069	1,090	1,124	1,272
Furniture, Bedding, and Upholstery ..	695	774	781	883	887	1,000	1,035	1,071	1,070	1,120
Drugs, Chemicals, and By-products ..	771	814	870	899	908	1,000	1,064	1,149	1,111	1,169
Surgical and other Scientific Instruments	801	886	789	1,000	951	1,000	1,119	1,389	1,237	1,368
Jewellery, Time-pieces and Plated Ware	775	786	874	893	902	1,000	1,068	1,161	1,266	1,810
Heat, Light, and Power	864	889	933	916	878	1,000	1,002	1,042	1,065	1,072
Leatherware, N.E.I.	769	794	823	851	878	1,000	1,167	1,188	1,103	1,216
Minor Wares, N.E.I.	724	834	863	943	942	1,000	1,104	1,183	1,228	1,286
Mean of all Industries	804	837	879	906	943	1,000	1,085	1,138	1,172	1,238

The above table shows that wages in all industries were higher in the year 1915-16 than in 1911, also that with but one exception, namely, in Class XV—Surgical and other Scientific Instruments the wages further advanced between 1913 and 1915-16.

The wages in each class in the table are called 1,000 in 1911; therefore, the index levels can be compared only horizontally, not vertically.

VALUE OF PRODUCTION FROM MANUFACTORIES.

In a previous table giving the value of production from manufactories, returns from establishments dealing with milk products were included.

The value of goods manufactured or of work done in 1915-16, excluding the production of establishments dealing with milk products, amounted to £67,477,570. Of this amount, £42,550,532 represents the cost of materials used and fuel consumed, the value added by processes of treatment, inclusive of salaries and wages, being £24,927,038.

The following table shows the proportion of each item combined in the process of production to the total output:—

Heading.	Industries connected with Milk Products.	Other Industries.	All Industries.	Proportion of Total Output.
	£	£	£	per cent.
Materials	3,178,630	41,048,449	44,227,079	62·3
Fuel, including Motive Power rented ..	26,137	1,502,083	1,528,220	2·2
Salaries and wages... ..	132,768	13,281,077	13,413,845	18·9
Total	3,337,535	55,831,609	59,169,144	83·4
Goods manufactured or work done ..	3,512,294	67,477,570	70,989,864	...
Balance which accrued to Proprietors for general purposes and as profit.	174,759	11,645,961	11,820,720	16·6

The difference between value of output and the cost of materials, fuel, and wages, as shown, represents the balance accruing to proprietors and manufacturers. Under the heading of fuel is included the cost of rented power, but waste-product used for fuel, as in saw-mills, is for the purposes of these tables regarded as valueless.

Thus, out of every hundred-pounds' worth of goods produced in manufactures the materials used and the fuel consumed in the manufacture thereof cost £64 8s., while the workers received £18 18s., and the proprietors £16 14s. There are, of course, numerous other items of expense, and the balance shown by no means represents actual profits. A considerable amount must be allowed for depreciation and renewal of plant and machinery, etc., insurance, rent, advertising, rates, taxes (other than duty or income tax), and a sum to cover the interest on invested capital. After deducting from the total value of output the sums represented by these items, all of which are not necessarily incidental to every kind of manufacturing industry, the credit balance remains as the actually accruing reward of the investment of capital represented by the individual enterprise. Many persons who work in their own establishments as managing directors, as foremen, or even as skilled artisans and supervising accountants, draw salaries; but the money thus earned by them is included in necessary working expenses, and must not be regarded as profit on capital invested. If the working proprietor or supervising partner were not employed in some selected capacity in the manufactory in which he has sole or part interest, other labour would be required to fill his place, and the reward of such substituted labour would necessarily be included in wages or salaries.

The following table shows, in each class of industry, the value of goods manufactured or of work done, the amount paid in wages and salaries, the cost of materials used and of fuel consumed, and the proportionate value of manufactured goods represented by these various charges on production.

Class of Industry.	Goods Manufactured, or work done.	Materials used.	Fuel consumed, including motive power rented.	Salaries and Wages.	Proportionate Value of Manufactured Goods represented by—			
					Materials used.	Fuel, etc.	Salaries and Wages.	Balance.
	£	£	£	£	per cent.	per cent.	per cent.	per cent.
Treating Raw Material, Pastoral Products	6,083,338	5,105,713	48,105	392,654	83·9	0·8	6·5	8·8
Oils and Fats, etc.	1,409,467	1,002,745	26,221	119,678	71·0	2·0	8·5	18·5
Processes in Stone, Clay, Glass, etc.	1,862,081	418,683	209,156	701,306	22·5	11·2	37·7	28·6
Working in Wood	3,264,952	2,082,415	24,022	831,684	63·8	0·7	25·5	10·0
Metal Works, Machinery, etc.	17,518,290	9,854,145	536,884	4,065,413	56·3	3·0	23·2	17·5
Connected with Food and Drink, etc.	21,730,548	17,172,757	209,142	1,618,761	79·0	1·0	7·4	12·6
Clothing and Textile Fabrics, etc.	7,127,092	3,900,080	47,613	1,932,134	54·7	0·7	27·1	17·5
Books, Paper, Printing, etc.	3,019,964	1,193,036	43,006	1,105,061	39·5	1·4	36·6	22·5
Musical Instruments, etc.	148,076	69,255	250	51,297	46·7	0·2	34·6	18·5
Arms and Explosives	356,522	58,229	4,932	239,457	16·3	1·4	67·2	15·1
Vehicles, Fittings, and Saddlery, etc.	1,129,517	445,449	15,284	449,609	39·4	1·4	39·8	19·4
Ship and Boat Building, etc.	797,608	190,744	16,782	520,174	24·0	2·0	65·2	8·8
Furniture, Bedding, and Upholstery	1,108,604	555,423	8,865	385,508	50·1	0·8	34·8	14·3
Drugs, Chemicals, and By-products	1,484,730	912,674	16,592	170,626	61·5	1·1	11·5	25·9
Surgical and other Scientific Instruments	30,458	7,023	331	13,410	23·0	1·1	44·0	31·9
Jewellery, Timepieces, and Plated Ware	242,923	163,274	1,800	89,846	42·5	0·5	37·0	19·7
Heat, Light, and Power	2,814,3·8	639,493	312,931	529,133	22·8	11·0	18·8	47·4
Leatherware, N.B.I.	281,28·	174,462	1,047	56,500	62·0	0·4	20·2	17·4
Minor Wares, N.B.I.	580,072	341,479	5,191	141,094	58·9	0·9	24·3	15·9
Total	70,980,864	44,227,079	1,528,220	13,413,845	62·3	2·2	18·9	16·6

* Exclusive of drawings of working proprietors.

It is interesting to note the extent to which the value of materials is enhanced by the processes of treatment. For all industries materials averaged 62·3 per cent. of the value of the output, but there was great diversity amongst the various classes, the proportion ranging from 16 per cent. in those industries engaged in arms and explosives to nearly 84 per

cent. in those treating raw material and pastoral products. These variations can readily be understood when the wide difference between the operations of the industries is considered, and the value of the plant employed is taken into account. The extensive use of machinery is not, however, always the chief factor controlling the value added to materials, and the industries dealing with food and those engaged in ship-building may be cited as examples. In the former class materials represent nearly 79 per cent. and wages only 7 per cent. of the total value, while in the latter class the wages amount to much more than twice the value of materials used, and represent 65 per cent. of the total cost. It must be noted that in ship and boat building and repairing a very large proportion of the work consists of repairs and renovations in which cost of materials is much less than in the manufacture of commodities.

In the following table the proportion per cent. that the cost of wages and materials, including fuel, bears to the total output of manufactories and works is shown for the ten years from 1906 to 1915-16.

Year.	Wages.	Materials and Fuel.	Balance : Profit, less Expenses.	Total.
1906	16.1	65.3	18.6	100.0
1907	16.6	65.9	17.5	100.0
1908	18.0	65.7	16.3	100.0
1909	17.8	65.8	16.4	100.0
1910	17.5	65.6	16.9	100.0
1911	18.6	64.2	17.2	100.0
1912	18.9	62.9	18.2	100.0
1913	19.3	63.8	16.9	100.0
1914-15	18.6	64.3	17.1	100.0
1915-16	18.9	64.5	16.6	100.0

The following statement shows the progress of manufactories, inclusive of those connected with milk products, the value of production, and the amount paid in wages during each of the last ten years.

Year.	Value of—					Salaries and Wages paid, exclusive of drawings of Working Proprietors.
	Materials Used.	Fuel consumed, including Motive Power rented.	Goods manufactured, or work done.	Production, being Value added to Raw Materials.	Production per head of Population.	
	£	£	£	£	£ s. d.	£
1906	22,102,685	609,998	34,796,169	12,083,486	8 2 3	5,591,888
1907	25,533,451	843,686	40,018,301	13,641,164	9 0 0	6,650,715
1908	25,507,414	876,565	40,163,826	13,779,847	8 18 4	7,218,556
1909	27,314,486	940,840	42,960,689	14,705,363	9 6 6	7,665,125
1910	31,379,604	1,184,282	49,615,643	17,051,757	10 11 1	8,687,007
1911	33,670,951	1,242,613	54,346,011	19,432,447	11 13 6	10,047,662
1912	37,122,441	1,360,141	61,163,328	22,680,746	13 0 11	11,592,052
1913	40,537,476	1,371,425	65,672,495	23,763,594	13 2 8	12,683,334
1914-15	42,559,370	1,364,186	68,253,332	24,329,776	13 1 3	12,667,721
1915-16	44,227,079	1,528,220	70,989,864	25,234,565	13 10 4	13,413,845

The production per head of population has increased by £6 ls. 7d., or 82 per cent. since 1905, and the value is now the largest from all industries, having been for the last four years greater than that from the pastoral industry.

The subjoined table shows the cost of materials (including fuel) per employee engaged in manufacturing, under each class of industry, for the five years 1911-16.

Class of Industry.	1911.	1912.	1913.	1914-15.	1915-16.
	£	£	£	£	£
Treating Raw Material, etc. ...	1013·26	1012·41	1153·19	1281·88	1460·83
Oils, Fats, etc. ...	801·65	892·23	814·84	875·77	932·88
Processes in Stone, Clay, Glass, etc. ...	79·86	90·77	82·85	90·73	114·78
Working in Wood ...	231·13	254·41	258·89	259·27	284·77
Metal Works, Machinery, etc. ...	321·10	360·49	367·85	293·49	371·55
Connected with Food, Drink, etc. ...	998·04	1035·41	1058·72	1292·43	1206·32
Clothing, Textile Fabrics, etc. ...	103·14	106·12	112·68	130·02	149·31
Books, Paper, Printing, etc. ...	90·83	98·12	100·93	109·80	131·94
Musical Instruments, etc. ...	180·84	166·55	168·71	170·08	182·43
Arms and Explosives... ..	275·48	*292·23	*318·14	*163·78	124·53
Vehicles and Fittings, Saddlery, etc. ...	106·16	100·82	106·90	104·76	113·79
Ship and Boat Building, etc. ...	72·72	62·88	67·12	56·41	64·39
Furniture, Bedding, and Upholstery ...	147·40	144·41	153·65	154·50	162·90
Drugs, Chemicals, and By-products ...	349·63	362·75	413·63	481·94	549·54
Surgical and Scientific Instruments ...	80·89	77·13	88·19	54·94	63·95
Jewellery, Timepieces, and Plated Ware..	153·11	154·04	170·72	159·53	152·72
Heat, Light, and Power ...	258·62	248·53	234·97	257·63	255·49
Leatherware, N.E.I. ...	310·63	285·70	291·13	286·21	301·56
Minor Wares, N.E.I. ...	184·62	193·97	187·91	187·09	222·94
Totals	321·42	333·41	348·90	378·64	396·61

*Excluding Commonwealth Small Arms Factory.

The foregoing table shows a general increase for the five years under review, but there have been fluctuations. Persons engaged in four classes of manufacturing industry handled in 1915-16 materials of lower value than in 1914-15. The classes to which reference is made comprise those connected with food and drink, with arms and explosives, with jewellery, time-pieces and plated-ware, and with heat, light and power. The decline in food and drink amounted to £86·11; in arms and explosives, to £39·25; in jewellery, etc., to £6·81; and in heat, light and power, to £2·14 per employee handling materials under these classes. An examination of the table shows that there had been decreases and recoveries during preceding years in the value of materials per employee in the classes treating raw material, oils and fats, metal works and machinery, musical instruments, arms and explosives, vehicles and saddlery, ship and boat-building, surgical and scientific instruments, jewellery, heat and light, leatherware, and minor wares.

An examination of the preceding and following tables reveals some curious results. In Class X—Arms and Explosives (exclusive of the Commonwealth Small Arms Factory) the average individual labour was valued at £104 per annum—that is, the amount, less the cost of materials and fuel, at which output was listed; and the average value of raw material treated by each person was £124. Clothing and Textile Fabrics (Class VII) comes next with an average individual value of labour of £120 applied to an average value of raw material of £149. Class XIX—Minor Wares shows a value per employee of £150, and a cost of materials per employee of £223. The amounts under Class IV—Working in Wood were, respectively, £157 and £285; under Class XIII—Furniture, Bedding, and Upholstery, £157 and £163; under Class XI—Vehicles, Saddlery, Harness, etc., £165 and £114; under Class XVIII—Leatherware, £182 and £302; under Class XII—Ship and Boat Building and Repairing, £183 and £64; under Class VIII—Books, Paper, Printing, etc., £190 and £132; under Class XVI—Jewellery, Timepieces,

and Plated ware, £200 and £153; under Class IX—Musical Instruments, £206 and £182; under Class III—Processes in Stone, Clay, Glass, etc., £226 and £115; under Class V—Metal Works, Machinery, etc., £255 and £372; under Class I—Treating Raw Material, etc., £263 and £146; under Class VI—Food and Drink, £302 and £1,206; under Class XIV—Drugs, Chemicals, and By-products, £328 and £550; under Class II—Oils, Fats, etc., £345 and £933; and under Class XVII—Heat, Light, and Power, £499 and £255. In the first of the foregoing items in each class is represented the value per employee added to raw material, ascertained by deducting from output the cost of raw materials and fuel; and in the second the cost of raw material per employee, the cost of fuel being excluded from the calculation.

The following table shows the production per employee, *i.e.*, value per employee added to raw materials in process of manufacture, during the last five years.

Class of Industry.	1911.	1912.	1913.	1914-15.	1915-16.
	£	£	£	£	£
Treating Raw Material, etc.	167·03	186·92	192·69	195·89	263·47
Oils, Fats, etc.	299·31	336·47	237·17	291·29	344·97
Processes in Stone, Clay, Glass, etc.	190·34	213·89	201·47	211·65	225·63
Working in Wood	142·81	156·73	153·31	158·60	156·62
Metal Works, Machinery, etc.	212·79	241·17	229·72	233·21	254·85
Connected with Food, Drink, etc.	264·91	283·06	284·97	326·93	301·80
Clothing, Textile Fabrics, etc.	94·97	102·23	105·19	113·03	120·23
Books, Paper, Printing, etc.	157·67	171·54	178·25	166·23	190·43
Musical Instruments, etc.	197·92	204·86	219·50	212·76	206·22
Arms and Explosives	76·69	*113·75	*136·85	*146·36	103·83
Vehicles and Fittings, Saddlery, etc.	137·52	143·80	153·28	155·39	165·17
Ship and Boat-building, etc.	152·53	158·01	167·40	163·14	183·08
Furniture, Bedding, and Upholstery	146·03	150·33	152·19	153·26	157·13
Drugs, Chemicals, and By-products	274·29	289·35	338·39	313·40	328·48
Surgical and other Scientific Instruments	199·71	181·96	194·99	165·85	200·90
Jewellery, Timepieces and Plated Ware	166·35	177·72	174·94	182·98	200·36
Heat, Light and Power	502·67	497·43	522·33	553·34	499·43
Leatherware, N.E.L.	146·15	170·64	169·58	184·66	181·75
Minor Wares, N.E.L.	123·07	133·72	142·26	143·62	150·10
Total	178·90	196·54	197·54	208·95	216·55
		*	*	*	

* Excluding Commonwealth Small Arms Factory.

It should be noted that the foregoing table does not submit a comparative value of labour as utilised in any particular industry and contrasted with that utilised in any other; nor does it show that the amount of labour done by each worker has increased in value. It shows simply the average cost of the work done in processes of manufacture by each individual; while the table preceding it exhibits the value of raw materials and fuel treated by each individual.

The figures show, moreover, that the production per employee in some manufacturing industries has increased in value during the period under review, as a consequence of the increase in the cost of materials, and in wages, although there have been certain periodic declines. During the year intervening between 1914-15 and 1915-16, there has been a falling off in production per employee under the industries classed as working in wood, in food and drink, in musical instruments, in arms and explosives, in jewellery, in light and heat, and in leatherware.

The ratio of the annual expenditure in wages and salaries to the value of production varies considerably even in establishments devoted to the same industry, and is largely a matter of efficient management. It is an axiom among manufacturers that the proportional cost of labour declines in periods of activity and increases in periods of slackness; and if the exigencies of increased demand require factories to work overtime the increased outlay in wages is counterbalanced by the impetus which total output gains from full exploitation of its resources. The cost of production, under the industrial laws of the State is dependent, as far as the human factor is concerned, on the standard minimum of a living wage.

The following table shows the proportion per cent. of the annual expenditure in wages and salaries to the value of production for the five years 1911-1916.

Class of Industry.	1911.	1912.	1913.	1914-15.	1915-16.
	per cent.	per cent.	per cent.	per cent.	per cent.
Treating Raw Material, etc. ...	50.2	43.4	48.2	51.5	42.2
Oils, Fats, etc. ...	25.2	24.7	24.7	34.7	31.5
Processes in Stone, Clay, Glass, etc. ...	55.5	54.8	57.0	58.7	56.8
Working in Wood ...	62.7	63.3	68.8	68.6	71.8
Metal Works, Machinery, etc. ...	56.1	53.6	57.9	55.1	57.0
Connected with Food, Drink, etc. ...	35.0	33.9	36.2	34.0	37.2
Clothing, Textile Fabrics, etc. ...	64.9	64.0	65.5	63.5	60.8
Books, Paper, Printing, etc. ...	60.3	61.3	61.6	70.1	61.9
Musical Instruments, etc. ...	57.1	58.0	56.8	59.3	65.3
Arms and Explosives ...	77.9	*75.8	*61.8	*72.9	*88.3
Vehicles and Fittings, Saddlery, etc. ...	64.5	67.0	64.5	68.3	67.2
Ship and Boat-building, etc. ...	82.6	85.3	82.7	87.2	88.2
Furniture, Bedding, and Upholstery ...	63.7	67.8	69.3	69.8	70.9
Drugs, Chemicals, and By-products ...	31.2	31.3	28.7	39.2	30.7
Surgical and other Scientific Instruments	42.8	49.9	59.1	60.3	58.0
Jewellery, Time-pieces, and Plated Ware	59.9	59.7	65.6	68.7	65.2
Heat, Light, and Power ...	26.4	26.7	26.4	25.4	28.4
Leatherware, N.E.I. ...	54.6	53.8	55.3	47.7	53.7
Minor Wares, N.E.I. ...	57.1	57.5	57.8	59.5	60.5
Total ...	51.7	51.0	53.3	52.0	52.8
		*	*	*	*

* Excluding Commonwealth Small Arms Factory.

There have been increases in the relative rate of wages in no fewer than 11 industries, and decreases in 8. Of the former, Class X—Arms and Explosives was debited with 15.4 per cent, Class IX—Musical Instruments with 6 per cent., Class XVIII—Leatherware, n.e.i. with 6 per cent., Class IV—Working in Wood with 3.2 per cent., Class VI—connected with Food and Drink with 3.2 per cent., Class XVII—Heat, Light, and Power with 3 per cent., Class V—Metal Works and Machinery with 1.9 per cent., Class XIII—Furniture, Bedding, and Upholstery with 1.1 per cent., Class XII—Ship and Boat Building with 1 per cent., Class XIX—Minor Wares with 1 per cent., and Class XIV—Drugs, Chemicals, and By-products with 0.5 per cent. The decreases, in the proportion per cent. of the annual expenditure in wages and salaries to the value of production in 1915-16, were as follow:—Class I—Treating Raw Material 9.3 per cent., Class VIII—Books, Paper, Printing, etc. 8.2 per cent., Class XVI—Jewellery, Time-pieces, and Plated Ware 3.5 per cent., Class II—Oils, Fats, etc. 3.2 per cent., Class VII—Clothing, Textile Fabrics, etc. 2.7 per cent., Class XV—Surgical and other Scientific Instruments 2.3 per cent., Class III—Processes in Stone, Clay, Glass, etc. 1.9 per cent., and Class XI—Vehicles, Fitting, Saddlery, etc. 1.1 per cent.

INDIVIDUAL INDUSTRIES.

In the following pages are shown the results of a more detailed examination with regard to the separate industries included in each of the 19 classes of manufactures, group particulars of which have already been given.

I.—TREATING RAW MATERIAL: PASTORAL AND AGRICULTURAL PRODUCTS.

The industries in which raw material, as derived from pastoral and agricultural operations, is treated, form five distinct orders. Details for 1915-16 for these orders are as follow :—

Industry.	Establishments.		Average number of Employees, including Working Proprietors.		Power used.			Value of Machinery, Tools and Plant.
	Total.	Using Machinery	Males.	Females.	Steam.	Electricity	Other.	
Boiling-down, Tallow Refining, etc	26	26	291	10	h.-p. 463	h.-p. 243	h.-p. 60	£ 61,491
Sausage-skin Making	5	...	62	...	...	...	...	145
Tanning	76	70	1,052	8	615	489	293	92,701
Wool-scouring and Fellmongering	49	47	1,399	75	1,550	1,079	382	187,850
Chaff-cutting, Corn-crushing, etc.	108	105	630	1	620	151	123	55,195
Total	264	248	3,434	94	3,248	1,962	858	397,382

The average time worked by the employees listed under this class was as follows :—Order (3) tanning 11·52 months, order (4) wool-scouring and fellmongering 10·35, order (1) boiling-down, tallow-refining, etc. 9·05, order (2) sausage-skin making 8·31, and order (5) chaff-cutting, corn-crushing, etc. 7·50.

Boiling-down, Tallow Refining, etc.

In the figures given above regarding establishments, particulars are not included concerning boiling-down or wool-washing plants in operation on sheep stations and on farms. Such plants are necessarily operative for more or less restricted periods, and their activities are manifested generally during definite seasons of the year.

Tallow refining as an industry is dependent, in a measure, upon seasonal conditions, activity being greatest when there is a surplus of live-stock, or when a prospective or actual falling-off in available pasturage is experienced through adverse conditions of climate and rainfall. The boiling-down industry had its origin in a period of financial stress, though it has remained an expedient to meet critical periods in pastoral enterprise, but it is resorted to only under necessity on any considerable scale, on account of the wastefulness involved in the process.

The following statement shows the estimated production for the last five years, together with the output from all sources, including station-plants, and the amount used locally constituting the raw material for soap and candle making. The balance of the local production is exported.

Year.	Estimated Quantity of Tallow.	
	Produced.	Used Locally.
	cwt.	cwt.
1911	729,330	123,740
1912	568,500	131,600
1913	795,020	143,590
1914-15	711,857	165,143
1915-16	274,000	147,758

Exclusive of operations on stations and large farms, for which details are not available, the value of carcases, fat, refuse, bones, etc., treated during 1915-16 in boiling-down works, was £261,357, and 1,800 cwt. of raw tallow was used; the output included 139,777 cwt. of raw and refined tallow, valued at £250,868; and 278,466 cwt. of manure, valued at £92,619; whilst the values of hides, skins, etc., was £14,274; oils, £1,708; grease, £2,407; bones, horns, etc., £6,817; glue-pieces, sinews, etc., £10,710.

Tanning.

In tanneries, 110,795 calf and yearling hides and 459,295 other hides, and 1,400 cwt. of hide-pieces, 3,504,375 pelts, and 283,337 other skins produced 15,563,183 lb. of leather, worth £1,183,049, and basils weighing 2,697,548 lb. valued at £147,263; whilst pickled pelts numbering 793,342 were valued at £39,631. Other skins after treatment were valued at £73,147. Of bark, 10,962 tons were used in treating these materials.

Wool-scouring and Fellmongery.

In wool-scouring works and fellmongeries 46,809,469 lb. of greasy wool and 4,013,781 skins were treated, producing 20,357,256 lb. and 13,691,317 lb. of scoured wool, valued respectively at £1,506,826 and £1,353,100, 3,333,948 pelts, valued at £87,533, and 793,342 pickled pelts valued at £39,631.

Included with wool-scouring works are two wool-combing factories established at Botany, near Sydney.

II.—OILS, FATS, ETC.

The industries in which oils and fats, animal and vegetable, are treated, are grouped under two heads, and particulars for each group for 1915-16 include the following:—

Industry.	Establishments.		Average Number of Employees, including Working Proprietors.		Power used.			Value of Machinery, Tools and Plant.
	Total.	Using Machinery.	Males.	Females.	Steam.	Electricity.	Other.	
					h.-p.	h.-p.	h.-p.	£
Oil and Grease ...	10	9	257	10	£73	407	10	168,167
Soap and Candles ...	30	24	631	205	315	270	...	257,507
Total ...	40	33	888	215	688	677	10	345,704

Establishments dealing with mineral oils are included in the class engaged in the generation of heat, light, and power. The average time made by the employees listed under Class II was 11.94 months for those working in soap and candles, and 11.73 for those working in oil and grease.

Soap and Candle Factories.

The following table gives certain particulars relating to the soap and candle manufacturing industry for the last five years :—

Year.	Soap and Candle Factories.	Average Number of Employees, including Working Proprietors.	Quantity Manufactured.		Horse-power of Plant (full capacity).
			Soap.	Candles.	
			cwt.	lb.	h.-p.
1911	37	658	277,449	5,388,848	872
1912	34	689	290,953	5,581,858	837
1913	31	725	278,899	5,563,404	645
1914-15	32	753	286,425	4,958,741	829
1915-16	30	836	299,439	4,748,460	883

The candles manufactured in 1915-16 weighed 4,748,460 lb., valued at £119,736, while the soap manufactured included household, 236,094 cwt., valued at £349,000; toilet, 19,411 cwt., valued at £92,906; sand, 32,876 cwt., valued at £30,073; soft, 11,058 cwt., valued at £16,941, making the total value for all soaps £488,920. In addition 3,651,889 lb. of soap extract and powders valued at £46,596, and soda crystals valued at £20,661 were made. Tallow, 147,615 cwt.; alkali, 7,470,671 lb.; and other materials such as copra oil, resin, and paraffin, valued at £269,699 were used in the manufacture.

III.—STONE, CLAY, GLASS, ETC.

The majority of the industries in this class are associated with building and construction, and their operations reflect, to a great extent, the condition of that trade. Details of each industry for 1915-16 were as follow :—

Industry.	Establishments.		Average Number of Employees, including Working Proprietors.		Power used.			Value of Machinery, Tools and Plant.
	Total	Using Machinery.	Males.	Females.	Steam	Electricity.	Other	
					h.-p.	h.-p.	h.-p.	£
Bricks and Tiles	168	92	2,555	35	4,744	1,942	1,137	668,568
Glass (including Bottles)	6	3	994	4	30	140	6	18,142
Glass (Ornamental)	20	12	241	13	4	114	...	11,767
Lime, Plaster, Cement, and Asphalt ...	39	20	884	7	3,600	1,545	198	313,627
Marble, Slate, etc.	15	14	259	2	20	404	63	28,150
Pottery, Earthenware, including Modelling, etc.	21	19	470	6	395	271	29	57,971
Total	269	160	5,403	67	8,793	4,416	1,433	1,098,225

With the exception of 94 horse-power derived from oil-engines, and 120 horse-power derived from water-mills, and used in brick, tile, lime and cognate works, all the "other" power used was derived from gas. The average time made by employees listed under this class was as follows :—

Order (2) glass (including bottles) 11·98 months, order (6) pottery, earthenware (including modelling, etc.) 11·95, order (3) glass (ornamental) 11·75, order (4) lime, plaster, cement and asphalt 11·70, order (5) marble, slate, etc. 11·64, and order (1) bricks and tiles 10·35 months.

Brickworks.

Brickworks have been established in proximity to nearly every large town throughout the State, and the industry dates practically from the earliest years of settlement.

The following figures present detailed statistics of the industry during the last five years.

Year.	Brickworks.	Average Number of Employees, including Working Proprietors.	Bricks made.	Horse-power of Plant (full capacity).
				h.-p.
1911	222	3,017	327,864,000	6,311
1912	202	3,128	383,656,000	7,956
1913	217	3,665	389,435,000	10,788
1914-15	188	3,230	331,107,000	11,192
1915-16	168	2,590	272,579,000	10,911

The output of bricks for 1915-16 was valued at £601,089.

The impetus given to brick-making prior to the beginning of the great war in Europe was the result of remarkable activity in the building trades in the metropolitan and suburban areas. Since the middle of the year 1914 there has, however, been a marked suspension of activity in this direction, and renewed enterprise is awaiting the conclusion of hostilities. In the meantime building and construction of only an imperative character is being undertaken.

State Brickworks, Homebush.

In the latter part of 1911 the Government established State Brickworks at Homebush, near Sydney, where a considerable area of suitable clay had been found. Most of the output in the period of inauguration was used in constructing and amplifying the works, but there is now considerable production for general supply, outside the quantity made for use in building conducted under the supervision of the Public Works Department, and the operations of the year 1916 show a substantial increase over those of 1915.

The output in 1915-16 of manufactured bricks was 38,137,384, showing an increase of 5,802,583, and on sales an increase of 5,819,751, while the cost of manufacture was £1 5s. 4·46d., or a decrease of 2·37d. per 1,000. The actual net profit on the year's trading was £9,135, or an increase of £1,555. The profits, after providing interest on capital, and contribution to Sinking Fund, equalled 10·6 per cent. on the capital employed at 30th June, 1916, to which date the accumulated profits represented the sum of £17,545. During this period depreciation on many of the assets was increased considerably by the Management. Out of the profits bonuses were paid during the year to the employees on account of 1914-15, and absorbing £1,109. The hands employed during the year 1915-16 numbered 180, the full capacity of horse-power was 953, land and buildings were valued at £15,410 and plant at £44,500. The salaries and wages paid amounted to £25,477, the cost of material and fuel to £16,819, and the value of output to £66,740.

The following table gives particulars of the State Brickworks since 1913.

Particulars.	1913.	1914.	1915.	1916.
Number of Bricks manufactured ...	14,676,279	27,110,056	32,334,801	38,137,384
Used for Public Works ...	10,901,932	21,922,083	27,999,787	35,287,615
Sold to Private Purchasers ...	1,599,635	5,102,817	3,616,009	2,828,262
Stocks at 30th June ...	.....	.....	321,317	282,521
Balance used at Works ...	2,174,712	85,156	719,005	60,303
Cost of manufacture per 1,000 £	.....	1 6 10	1 5 7	1 5 4.46
Sale price per 1,000 ...	£ 1 10 0	1 19 6	1 15 0	.....
Seconds... ..	£	.....	.....	1 10 0
Commons ... ..	£	.....	.....	1 15 0
Face ... ..	£	.....	.....	3 0 0

State Sand-lime Brickworks, Botany.

Sand-lime brickworks were established by the State at Botany, and began the manufacture of bricks on the 1st May, 1913, the capacity of the machinery installed being 250,000 bricks per week. The number manufactured in the year 1913-14 was 2,842,008, the cost of manufacture being £3 2s. 7d. per 1,000. In 1914-15 the output was 4,362,765, and the cost of manufacture per 1,000 was £1 18s. 5d. The retail sale price per 1,000 was fixed at £1 15s. 0d. In 1915-16 the output was 4,730,359, an increase on the preceding year of 366,594. The cost of manufacture per 1,000 was £1 13s. 3.48d., being 5s. 4.90d. less than for the preceding year, but the sales realised 6.45d. less per 1,000 (*delivered*), whilst the trading (*delivery*) charges were 2s. 8.02d., and the profit and loss charges 2s. 7.42d. in excess, thus more than counterbalancing the advantage of the reduced manufacturing charges. The result of the year's transactions was a loss of £2,627, which included "Bad Debts" written off (£250). Allowing for this the loss was greater by £36 than in the preceding year, and represented 8.93 per cent. on the capital employed at 30th June, 1916. The accumulated loss then stood at £10,601 on a capital of £29,396, which called for serious consideration of the position of this industry. The hands employed at the Botany Brickworks in 1915-16 numbered 27, the full capacity of electric horse-power was 344, the land and buildings were valued at £9,400, and the plant at £15,000, the salaries and wages paid amounted to £4,240, the cost of material and fuel to £2,600, and the value of the output to £7,875.

Lime and Cement Works.

Lime is manufactured chiefly at Capertee and Goulburn, though small quantities are obtained from other localities.

The manufacture of cement has become an important industry, and the production was increased considerably on account of the construction of the Burrinjuck dam, and extensive railway and other works. The principal cement manufacturing are in operation at Granville and at Portland, near Wallerawang, the limestone being obtained from quarries in the neighbourhood of Capertee.

The production of lime and cement during the last five years was as follows:—

Year.	Lime Manufactured.		Value of Cement Manufactured.
	Quantity.	Value.	
	tons.	£	£
1911	29,930	32,918	315,569
1912	35,657	44,478	368,280
1913	33,272	41,428	402,249
1914-15	36,405	46,091	410,020
1915-16	27,852	39,335	414,150

State Lime-works, Taree and Botany.

To work extensive limestone deposits in the locality of the Manning River, State works were established during 1912 at Taree. During the year 1915-16 no work was performed as an industrial undertaking, the transactions being limited to the acquisition of limestone by the Broken Hill Proprietary Company, on a royalty basis, which provided a revenue of £582, and sales and ground rent amounting to about £20, making the total income £602. However, the annual statutory charges for interest, sinking fund, and depreciation will soon exhaust the capital, which is within measurable distance of complete extinction, and action is urgently needed to avert further loss.

Tiles, Pipes, Pottery, etc.

The manufacture of tiles, pipes, and earthenware is carried on usually in conjunction with brickmaking, although some establishments are devoted to this branch of the industry solely. The values of the tiles, pipes, and earthenware manufactured in 1915-16 were:—Tiles, £35,752; pipes, £86,438; pottery, £62,425; terra-lignum blocks, £4,050; making a total value of £188,665. The marked increase in pottery products since the 30th June, 1914, is due to restricted shipments from Europe, whence the bulk of household earthenware was derived. Although a considerable import trade in this class of commodities has since grown up with Japan, some branches of pottery manufacture have been established in this State, which is now practically producing all the sanitary-ware for building requirements, for which we were previously dependent on importations from abroad.

IV.—WORKING IN WOOD.

Wood-working industries are connected generally with the preparation and supply of building materials, and, as in the class immediately preceding, afford a reliable index to the state of the building trade in 1915-16.

The following figures present detailed statistics of the industry.

Industry.	Establishments.		Average Number of Employees, including Working Proprietors.		Power used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.			Steam.	Elec- tricity.	Other.	
			Males.	Females.				
					h.-p.	h.-p.	h.-p.	£
Boxes and Cases	43	40	695	7	565	954	123	49,493
Cooperage	15	12	174	1	72	111	76	34,145
Joinery	145	129	1,919	24	763	2,582	499	152,357
Saw-mills... ..	402	402	4,300	44	9,170	3,153	262	547,471
Wood-turning, etc.	40	40	229	4	75	197	29	18,899
Total	645	623	7,317	80	10,645	6,952	969	802,335

Of the 7,397 persons employed in these industries, 3,606 were engaged in the metropolitan district, and 3,791 in the country, the employment in the latter being almost wholly in connection with saw-mills, which provided work for 3,246 persons. The average time made by employees listed under this class was as follows:—Order (1) boxes and cases 11·77 months, order (3) joinery 11·61, order (5) wood-turning, etc. 11·28, order (2) cooperage 10·89, and order (4) saw-mills 10 03 months.

Box and Case Making.

Employment in box factories has extended considerably in recent years, mainly on account of the development of the export trade. In 1902 there were only 183 employees in these establishments, as compared with 702 in 1915-16, and the number of establishments increased from 14 to 43.

State Timber-yard, Uhr's Point.

The State timber-yard and building workshops, where timber used in constructional work may be properly seasoned, is situated at Uhr's Point, on the Parramatta River, near Sydney. The expenditure during the year 1914-15 amounted to £32,357, but the results of the last year's transactions showed a marked improvement, the sales amounting to £213,074, or an increase on the previous year of £109,662—a rate of 106 per cent. The trading expenses to sales show a reduction of 19·8 per cent., the decrease being mainly in wages and supervision. The gross profits to sales rose from 6·7 per cent. to 19·17 per cent., and the surplus profits, after meeting charges for interest, depreciation, and contribution to sinking fund, were £2,855, reducing the accumulated loss to £29,580. The sales to private customers and firms amounted to £75,429, which comprised 35·4 per cent. of the total, the balance being absorbed by Government Departments.

Saw-mills.

Details concerning the saw-milling industry during the last five years were as follow:—

Year.	Saw-mills.	Average Number of Employees, (including Working Pro-prietors).	Plant and Machinery.		Year.	Saw-mills.	Average Number of Employees (including Working Pro-prietors).	Plant and Machinery.	
			Power (full capacity).	Value.				Power (full capacity).	Value.
			H.-p.	£				h.-p.	£
1911	452	5,205	13,342	526,909	1914-15	414	4,808	16,126	571,525
1912	469	5,590	15,016	597,097	1915-16	402	4,344	17,436	547,471
1913	477	5,788	16,262	619,264					

During 1915-16 the output of sawn-timber from logs obtained from the forests of New South Wales amounted to 115,201,000 superficial feet, of which 87,387,000 superficial feet, or over three-fourths, were hardwoods. From imported logs 11,657,000 superficial feet of timber were sawn, of which 8,598,000 feet were softwoods. The value of the timber sawn from native logs was stated as £241,102 for softwood and £613,294 for hardwood at the works, and the imported timber when sawn £92,964 for softwood and £37,861 for hardwood.

V.—METAL WORKS, MACHINERY, ETC.

The industries included in this class are by far the most important to the industrial workers in the State, although the clothing trade employs a greater number of persons, of which number, however, over 72 per cent. are females.

The following table shows the average number of employees and other particulars for each branch of industry in this class during 1915-16 :—

Industry.	Establishments.		Average Number of Employees, including Working Proprietors.		Power used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.			Steam.	Electricity.	Other.	
			Males.	Females.				
					h.-p.	h.-p.	h.-p.	£
Agricultural Implements	23	21	587	10	40	130	157	33,905
Art Metal Works	6	6	123	2	2	73	80	29,704
Brass and Copper	30	23	501	8	26	95	40	22,851
Cutlery	12	12	43	2	...	60	...	3,739
Engineering	201	199	7,115	64	2,617	3,566	613	911,203
Galvanized Iron	46	30	705	11	18	191	152	47,695
Ironworks and Foundries	86	86	3,434	25	13,478	4,974	199	1,296,991
Railway Carriages and Rolling Stock	5	5	982	8	460	202	...	60,106
Railway and Tramway Workshops	35	35	9,209	23	2,550	3,365	561	1,003,999
Smelting and Ore Dressing	29	27	2,943	9	7,545	9,227	118	1,279,406
Stoves and Ovens	12	11	361	3	...	194	144	41,120
Tinsmithing	55	28	846	198	133	151	81	66,632
Wireworking	19	15	471	15	30	514	...	78,346
Other Metal Works (including... Lead Mills)	25	24	406	58	170	121	186	51,321
Total	584	528	27,531	436	27,104	22,863	2,331	4,956,818

The average time made by employees listed under this class was as follows:—Orders (1) agricultural implements, (3) brass and copper, (4) cutlery, (8) railway carriages and rolling stock, and (9) railway and tramway work shops, full time; order (13) wireworking 11·99 months, order (6) galvanized iron 11·94, order (7) ironworks and foundries 11·89, order (14) other metal works (including lead mills) 11·88, order (2) art metal works 11·84, order (5) engineering 11·82, order (12) tinsmithing 11·77, order (11) stoves and ovens 11·46, and order (10) smelting and ore-dressing 9·72 months.

In 1902 there were only 13,695 persons engaged in works of this class so that there has been an increase of 14,272, or over 104 per cent. since that year. The largest increases are in engineering works and in establishments connected with the manufacture and repair of railway engines, carriages, and rolling-stock. Some manufacturing industries in this class have, however, suffered from the effects of the war, and have either stood still or have experienced a decline.

In connection with the figures in the above table it is necessary to state that the work carried out at the railway and tramway workshops is of a character similar to that done under the classification of engineering, and the two orders may therefore be correctly associated in results and in type of industry.

The building locally of vessels for the Australian Navy at the Fitzroy Dock, Sydney, has given considerable impetus to the iron trades. Steel rails for use in Australian railways and tramways are made at Lithgow, and at Port Waratah, Newcastle, where extensive iron and steel works have been established.

State Monier Pipe and Reinforced Concrete Works.

On 2nd February, 1914, pipeworks were acquired by the State, and administered under the Special Deposits (Industrial Undertakings) Act, 1912. On the 30th June, 1915, the property account amounted to £17,818, and the stock in hand £13,314; the sales to that date amounted to £25,705. On the 30th June, 1916, the yearly balance sheet showed great improvements upon the previously successful operations of 1914-15. The sales had increased by £4,604, reaching £30,309, and the net profits of £11,755, after providing interest and sinking fund, were £1,998 in excess. From the net profit a sum of £4,748 was carried to reserve for renewals. This was £2,753 in excess of the amount transferred from the profits of 1914-15. This State undertaking is undoubtedly in a strong position financially, as is evident from the fact that the profits in the period of two years and five months amounted to £16,740, or about 88 per cent. of the fixed capital, or 58 per cent. of the combined fixed and working capital, besides a reserve of £7,669 to provide for depreciation and renewals of building and plant. The stock on hand stood at £29,050, which exceeded that of the previous year by £14,321. A considerable amount was represented by heavy stocks of steel and other commodities of manufacture secured at reasonable rates to ensure a sufficient supply for requirements during war time. The selling prices have not varied from those adopted at the outset, and these were the ruling rates of the firm from which the works were acquired.

Smelting and Ore Dressing.

Smelting Works, including treatment plants installed on mining properties, in 1915-16 numbered 27, and 2,957 persons were employed. The bulk of the work done involves the treatment of silver and lead ores won in New South Wales; but some establishments deal with gold, copper, tin, and other ores, which are brought from all parts of Australia, and even from New Caledonia. Quartz batteries are excluded from these figures, but establishments using a cyanide plant are included.

Smelting as a distinct industry is carried on in several centres in New South Wales, the most important works being at Cockle Creek, Boolaroo, in the Northern District, and at Port Kembla in the Southern. At Cockle Creek the ores treated are obtained from Broken Hill, as well as from mines in other parts of the State; the greater portion of the output of the Electrolytic Refining and Smelting Works, at Port Kembla, is derived from copper produced at Mount Morgan (Queensland) and at Mount Lyell (Tasmania), though a small proportion of blister copper is derived from mines in this State. It is considered that an economy could be effected, both in regard to the producing mine and the smelter, if all copper won in Australia, either in the form of ore, matte, or metal, were refined in New South Wales.

The following statement shows the operations of New South Wales smelting companies during 1915-16 :—

Works.	Output.					Value.
	Gold.	Silver.	Lead.	Copper.	Tin.	
	oz. fine.	oz.	tons.	tons fine.	tons.	£
Cockle Creek, Boolaroo ...	9,769	1,877,277	25,466	...	(*)	1,108,633
Port Kembla ...	144,298	529,532	...	26,577	...	3,736,618
Waratah ...	...	...	...	529	...	55,981
Woolwich ...	...	...	...	...	909	159,075

* Spelter.

The output shown for the works at Waratah and Woolwich is derived from ores mined exclusively in this State. At Port Kembla ores won in New South Wales, treated at the Company's works, and valued at £287,060, yielded as follows:—Gold, 5,145 oz. fine; silver, 32,473 oz.; copper, 2,310 tons.

VI.—FOOD AND DRINK.

There have been large individual increases in several industries in this group, notably confectionery, biscuits, and tobacco, but these have been counterbalanced by a decline in sugar-milling and in meat-preserving. The number of workers fluctuates to some extent during the year, as employment in certain establishments engaged in meat and fish preserving, in the manufacture and refining of sugar, in malting, and other industries, varies with the seasons. Workers in sugar mills make 8·95 months' employment per annum, workers in meat and fish preserving 8·97 months, and workers engaged in malting 9·73 months. Of other orders under Class VI—Food and Drink the lowest period of employment per year is shown by persons engaged in ice-making and refrigerating works, who made 10·93 months. Most of the other orders made full time, or nearly full time, the average months per annum for persons engaged in manufacturing industries classed under food and drink being as follow:—Flour mills 11·20, corn-flour and oatmeal 11·33, cheese factories 11·53, jam and fruit canning 11·64, bacon curing and condensed milk 11·73, butter factories 11·76, confectionery and aerated waters 11·80, pickles (including sauces and vinegar) 11·83, and breweries 11·99. Those engaged in the manufacture of butterine and margarine, biscuits, condiments (including coffee and spices), distilled spirits, and tobacco and cigars, all made full time.

The following table shows the average number of persons employed, together with the quantity of h.p. used, and the value of machinery, tools, and plant, in each industry during 1915–16.

Industry.	Establishments.		Average Number of Employees, including Working Proprietors.		Power used.			Value of Machinery, Tools and Plant.
	Total.	Using Machinery.	Males.	Females.	Steam.	Electricity.	Other.	
Bacon-curing	21	21	212	4	h.p. 185	h.p. 73	h.p. 47	£ 23,714
Butter Factories and Creameries	131	131	827	20	1,968	128	640	256,742
Butterine and Margarine	4	4	66	3	28	127	30	12,770
Cheese Factories	33	29	98	2	97	..	8	11,677
Condensed Milk	3	3	49	11	50	..	..	18,834
Meat and Fish Preserving	8	8	302	68	240	15	..	29,450
Biscuits	7	7	627	759	434	353	10	110,280
Confectionery	55	48	1,009	632	68	482	137	103,501
Cornflour, Oatmeal, etc.	12	12	288	263	370	400	98	92,007
Flour-mills	63	63	1,013	13	3,820	135	936	333,982
Jam and Fruit Canning	15	13	423	358	272	112	..	41,490
Pickles, Sauces, and Vinegar	21	16	177	202	37	59	8	19,341
Sugar Mills and one Sugar Refinery	4	4	1,011	50	1,915	1,850	10	976,358
Aerated Waters, Cordials, etc.	225	205	1,163	120	261	347	224	170,016
Breweries	24	23	936	4	1,485	874	148	619,498
Condiments, Coffee, Spices, etc.	24	21	265	289	92	143	17	33,743
Distilleries	3	3	31	..	8	102	4	62,672
Ice and Refrigerating	98	98	1,082	13	2,969	1,406	1,135	515,403
Malting	4	4	50	..	143	55	10	39,594
Tobacco, Cigars, etc.	12	8	884	1,085	55	440	..	130,617
Total	767	721	10,513	3,896	14,502	7,101	3,462	3,604,699

Butter, Cheese, and Bacon Factories.

Creameries operated as subsidiary branches of butter factories are not treated as separate establishments, and workers in them are included in the total of the whole order. There has, however, been a gradual but almost continuous increase in the quantity of butter made in recent years. The number of factories and of employees do not coincide with those shown in the preceding table, as they included factories on farms, in which the employees (723 males and 6 females in 1915-16) were not exclusively engaged in manufacturing dairy products, but were partly occupied in general farm labour. Particulars of the machinery in use and the number of persons employed during each of the last five years are given in the following table. Under the sub-heading "Churns" are included combined churns and butter-workers, which in 1911 numbered 5, in 1912 they numbered 11, in 1913 they numbered 71, in 1914-15 they numbered 74, and in 1915-16 they numbered 118.

Year.	Factories.							Estimated Value of Plant and Machinery.	Machinery in use.							Persons employed.	
	Butter only.	Creameries only.	Cheese only.	Bacon and Hams only.	Butter and Cheese.	Butter and Bacon.	Butter, Cheese, and Bacon.		Total.	Engines.		Butter Workers.	Churns.	Cream Separators.	Cheese Presses.	Males.	Females.
										Number.	Horse power.						
1911	163	629	49	19	5	..	..	865	£ 389,585	956	5,944	185	279	715	154	1,923	28
1912	152	615	52	21	3	..	..	843	403,909	959	6,250	165	259	631	152	1,883	42
1913	142	677	50	19	3	6	..	897	435,619	1,027	6,996	133	266	752	145	1,927	22
1914-15	142	609	66	21	4	1	..	843	446,507	963	6,947	109	258	704	146	1,949	33
1915-16	151	652	58	19	2	..	..	832	434,956	1,002	7,041	93	253	730	126	1,909	43

The results shown in this table, as compared with those of former years, were remarkable, and were brought about by a crisis in international relations supervening on a period of protracted drought. In 1914-15 the effects of the war had not been felt to any considerable extent in the Australasian States; but it was quite otherwise in 1915-16. With an increase of 39 factories there was a decrease in the estimated value of plant and machinery amounting to £11,551. Factories for making butter increased only by 9 in number and those used as creameries by 43, but there was a decrease of 8 in the number of factories for making cheese only, of 2 for curing bacon and hams only, and of 2 for making butter and cheese only, whilst the one butter and bacon factory operating in 1914-15 ceased altogether in 1915-16. In the preceding year, 963 engines of 6,947 horse-power, and 1,949 male and 33 female workers, produced 80,302,161 lb. butter, valued at £3,984,400; 3,770,431 lb. cheese, valued at £104,637; and 13,564,630 lb. bacon, valued at £554,692. During the year 1915-16 the output of 1,002 engines of 7,041 horse-power, and of 1,909 male and 43 female workers, amounted to 55,351,991 lb. butter, valued at £3,286,327; 3,950,891 lb. cheese, valued at £139,759; and 11,637,895 lb. bacon, valued at £565,421. The total value of these three items in 1914-15 amounted to £4,643,749; but in 1915-16 it had fallen to £3,990,507, mainly through the decrease in the output of butter, which showed a shortage of 25,050,170 lb. on that of the previous year, and a corresponding loss in value of £698,073. During the interval butter advanced from 11·91d. to 14·25d. per lb. wholesale, or the loss in total value would have been greater. The output of cheese increased by 180,460 lb., and the total value of output by £35,102. The output of bacon decreased by 1,926,735 lb., and the total value of output increased by £10,729.

During the year ended 30th June, 1916, the bacon factories, apart from farms, cured 11,637,895 lb. of bacon and hams, valued at £565,421, and produced lard weighing 556,094 lb., valued at £22,278; also small goods to the value of £36,627. The butter factories showed during the same period an output of 55,351,991 lb., valued at £3,286,327. Cheese factories produced 3,950,891 lb., valued at £139,759, and at condensed and concentrated milk factories 4,918,064 lb. of condensed and concentrated milk were made, the value being stated as £91,704.

It would, of course, be incorrect to charge all these changes in output and value to the incidence of the war, for a period of drought, embracing the major portion of the year 1912, the latter half of 1913, and lasting with more or less severity till 1915, caused serious fluctuations in production, with corresponding instability in prices. A reference to the current periodical literature relating to live-stock shows that the year 1912 was characterised by a hot and arid summer, and the two following years were very little better; though the withholding of rain affected stock more severely in one year and agricultural production in the year following. This sporadic visitation of dry weather was more stringent in certain Divisions than in others, but generally speaking, owing to lack of pasturage live stock was slaughtered for boiling-down, and the increase in the output of tallow was accompanied by a decrease in the manufacture of butter.

Dairying operations during the years 1913-14 and 1914-15 were affected by dry weather, especially on the North Coast, and the output of the dairy factories consequently fell below normal; and though the drought was neither continuous nor general, it greatly affected manufacture. The production of the dairying and cognate industries during the first six months of 1914, the half-yearly period immediately preceding the declaration of war, for which returns are available, was 40,215,823 lb. of butter, valued at £1,843,000; 1,603,780 lb. of cheese, valued at £43,500; and 5,702,676 lb. of bacon and hams, valued at £213,850.

Bacon, hams, butter and cheese are made largely also on farms, the special chapter in this Year Book dealing with the Dairying Industry should, therefore, be consulted for complete information regarding these industries.

Butterine and Margarine Factories.

There were in 1915-16 four factories for the manufacture of butterine and margarine at which 69 persons were continuously employed. The value of machinery, tools, and plant was stated as £12,770. The output for the year was 5,302,500 lb. of margarine, valued at £175,497.

Meat and Fish Preserving and Refrigerating.

There were eight establishments and 1,386 persons employed in connection with meat and fish preserving during 1915-16. The following table shows the number of carcasses treated during the last five years in establishments dealing with meat by canning and chilling.

Year.	Meat Preserving Works.				Refrigerating Works.	
	Cattle.	Sheep and Lambs.	Meat and Tongues and Sundries.		Cattle.	Sheep and Lambs.
			Quantity.	Value.		
	No.	No.	lb.	£	No.	No.
1911	61,596	925,475	3,023,931	31,978	10,188	1,469,923
1912	50,941	616,435	2,301,418	37,079	11,552	1,191,711
1913	100,827	374,523	7,305,113	81,807	29,887	2,160,484
1914-15	103,778	415,397	7,356,501	90,293	53,605	2,423,638
1915-16	11,466	76,008	4,993,226	195,464	11,835	762,034

The output of tinned meat, etc., in 1915-16 was 4,993,226 lb., valued at £195,464, and other products valued at £26,318. By-products were valued at £67,743.

At the ice-works 60,834 tons of ice, valued at £90,188, were made during 1915-16.

The meat-preserving industry likewise shows the combined effects of the drought and the war in the incidence and value of output, when the year 1915-16 is compared with the twelve months immediately preceding. In the year 1914-15 the cattle treated at meat-preserving establishments numbered 103,778 head, and the sheep and lambs 415,397, producing 7,356,501 lb. of meat, tongues, and sundries, valued at £90,293; and the cattle frozen numbered 53,605 carcasses, and the sheep and lambs 2,423,638. In 1915-16 the cattle treated at meat-preserving works numbered 11,466 head, and the sheep and lambs 76,008, valued at £195,464; and the cattle frozen numbered 11,835 carcasses, and the sheep and lambs 762,034. The cattle treated declined in number during the twelve-month 1914-15 to 1915-16 by 92,312 head, and the cattle frozen by 41,770 carcasses; whilst the sheep and lambs treated declined by 339,387, and those frozen by 1,661,604 carcasses. The production meanwhile decreased during the year on the figures of the preceding year's output by 2,363,275 lb., nevertheless the value of total output increased by £105,171.

If these figures are taken in conjunction with the returns from boiling-down establishments, the effects of the drought which prevailed throughout many districts of the State during the two-and-a-half years preceding the outbreak of the war in Europe can be appreciated more readily. In 1912 the total number of cattle slaughtered for the combined purposes of boiling-down, meat-preserving (canning), and refrigerating was 65,311, and of sheep for similar uses 1,828,016. In 1913 the respective numbers amounted to cattle 136,886, and sheep 2,548,928, showing an increase in the number treated of 71,575 head of cattle and 720,912 sheep. In 1914-15 the cattle treated numbered 172,673, and the sheep 2,858,849, or an increase of 35,792 head of cattle and 309,921 sheep. In 1915-16 the cattle numbered 25,866, and the sheep 845,231, or a decrease of 146,807 head of cattle and 2,013,618 sheep. The cattle and sheep slaughtered in 1912 for boiling-down, canning, and refrigerating represented fairly normal operations, for although it was a year of drought the full effects of the visitation were not felt in all their stringency until the following year, when the number of cattle slaughtered for the purposes specified was more than doubled, and that of sheep increased by more than a third. The number of animals slaughtered in both denominations of live stock continued markedly to increase in 1914-15; but in 1915-16 there came a sudden drop, owing to the breaking of the drought, the restoration of a normal equation of stock to pasturage, a decline in exports of tallow, etc., and a practical cessation of the oversea trade in canned and refrigerated meats; not because there was no demand for them, but on account of the restriction of shipping facilities and the transference of vessels to military transport services.

Flour-Mills, Biscuit Factories, etc.

The amount of mill-power for grinding and dressing grain is ample for treating the flour consumed in the State, and prior to the declaration of war an export trade was progressively developing.

The output of the flour-mills was below the normal level in 1908 as a result of a decrease in the yield of wheat. During the preceding year 74 mills, employing 858 workers, treated 11,617,905 bushels of wheat for 237,614 tons of flour, valued at £273,459. In 1909 the output of 71 mills, employing 860 workers, and treating 10,466,329 bushels of wheat, was

214,426 tons of flour, valued at £307,321. But in 1908 the output of 68 mills, employing 792 workers, and treating 8,737,228 bushels of wheat, was limited to 180,843 tons of flour, valued at £284,954.

The following table shows various details regarding flour-mills for a period of five years :—

Year.	Flour Mills.	Average Number of Employees including Working Proprietors.	Wheat treated.	Flour made.	Plant and Machinery.	
					Power (full capacity).	Value.
			bushels.	tons.	h.-p.	£
1911	73	967	12,616,111	253,556	6,302	340,316
1912	69	964	12,065,733	255,359	6,268	333,068
1913	68	1,035	13,963,806	285,425	6,278	342,367
1914-15	63	901	12,836,354	266,302	6,359	334,602
1915-16	63	1,026	12,300,748	254,393	6,372	336,982

After treatment of 12,836,354 bushels of wheat, the value at the mills of flour made in 1914-15 was £2,619,072, the output of bran was 63,828 tons, valued at £394,336; pollard, 48,070 tons, valued at £296,759; and 3,176 tons of sharps and screenings, valued at £26,313; and 23,337 cwt. of wheatmeal, etc., valued at £14,545 making a total value of £3,351,025. In the year 1915-16 the amount of wheat treated at the mills was less by 535,606 bushels, but the total value of production was more by £319,488. From 12,836,354 bushels of wheat the total output was 254,393 tons of flour valued at £3,009,949; of bran, 62,259 tons, valued at £327,978; of pollard, 47,665 tons, valued at £296,810; of sharps and screenings, 2,092 tons, valued at £18,344; and of wheatmeal, etc., 17,963 cwt., valued at £17,432.

About 100,000 cwt. of oatmeal valued approximately at £150,800, and 3,500 tons of maize-meal and cornflour valued at £95,695 were manufactured locally.

In biscuit factories 10,825 tons of flour were used during 1915-16, and 34,016,790 lb. of biscuits, valued at £753,287, were made.

Jam, Pickle, and Sauce Factories.

The principal articles produced in jam, pickle and sauce factories during 1915-16 were 32,032,151 lb. of jams valued at £522,395; and 2,390,245 lb. of preserves, valued at £40,856; 649,676 lb. of dried and evaporated fruit and pulp, valued at £3,698; 2,793,461 pints of pickles, valued at £52,655; 3,114,468 pints of sauces, valued at £65,519; and 893,125 gallons of vinegar, valued at £27,397.

Jam and fruit-canning is an industry which awaits systematic development in New South Wales; the climate and soil are admirably adapted for fruit growing, nevertheless a large proportion of the local demand is supplied by importation, although there exists the anomaly of hundreds of tons of fruit grown in the State being yearly wasted.

Aerated Water and Cordial Factories.

Particulars regarding the output of aerated-water factories show that during 1915-16 the following articles were produced :—1,010,344 syphons and 5,973,197 dozen bottles of aerated waters, 178,740 dozen of cordials

and syrups, 504,046 dozen of hop beer, 803,019 dozen of ginger beer, and 92,443 dozen of other cordials, the total value at the factories being £639,807. The number of persons employed varies with the season of the year, the greatest number at work in 1915-16 being 1,590, whilst those permanently occupied were 1,283 in number.

Breweries.

The number of breweries is decreasing, but the output shows an increase, during the last ten years.

The materials used in breweries for manufacturing purposes and the actual output during the last five years were as follow :—

Year.	Malt.	Hops.	Sugar.	Other Materials.	Ale, Beer and Stout manufactured
	bushels.	lb.	tons.	centals.	gallons.
1911	667,457	790,866	4,421	7,705	19,804,540
1912	773,194	891,535	5,048	8,286	22,741,332
1913	809,171	909,116	5,218	9,401	24,212,202
1914-15	838,148	893,050	5,192	6,044	24,434,147
1915-16	666,038	849,161	5,223	3,657	23,839,737

In the following table is given the quantity on which excise was paid :—

Year.	Breweries.	Average Number of Employees including Working Proprietors.	Ale, Beer and Stout on which Excise was paid.	Horse-power of Plant (full capacity).
			gallons.	h.-p.
1911	37	912	19,352,995	1,192
1912	33	1,020	22,126,426	1,926
1913	31	1,043	23,516,656	2,186
1914-15	27	1,045	23,516,877	3,965
1915-16	24	940	22,997,466	4,191

The total value at the breweries of the 22,997,466 gallons of ale, beer and stout made during 1915-16, and on which excise was paid, amounted to £1,033,045.

The local malt works treated 259,297 bushels of barley during 1915-16, and produced 249,111 bushels of malt, valued at £90,000.

Distilleries.

There are three distilleries in the State, two of which are wine distilleries, whilst the third is connected with the process of sugar-refining.

During the year 1915-16, the Customs Department issued 28 vignerons licenses. The greater part of the white spirit distilled from molasses is subsequently methylated; of the remainder, part is used for making rum, and part for fortifying vinegar, perfumes, etc. Almost all the white spirit distilled from wine is used for fortifying the production of vintages. A small quantity is used for making brandy.

During 1915-16, 1,577,654 gallons of white spirit were distilled from molasses and 11,706 gallons from wine, exclusive of 6,441 distilled by vignerons. The total quantity of white spirit produced during the year by vignerons and at distilleries was 18,148 gallons from 113,894 gallons of wine. The quantity of manufactured spirits produced was as follows :— Brandy, 3,165 gallons; rum, 98,990 gallons; rectified spirits, 790,613 gallons; and methylated spirits, 696,592 gallons.

Sugar Mills.

The manufacture of sugar has long been an important industry. As far back as 1878 there were 50 mills, of which 24 used steam-power and 26 were worked by cattle, and the employees numbered 1,065. By 1886 the establishments numbered 83 steam-mills and 19 worked by cattle. The number of persons employed, and the quantity of sugar and molasses produced, increased correspondingly. But since that time the smaller establishments have ceased business. There are now only 3 sugar mills in the State, and employment is afforded to a smaller number of persons than were engaged ten years ago.

The reason for the decline in the manufacture of sugar is to be found in the decrease of the area put under sugar-cane in New South Wales. In the prosperous days of sugar production as a primary industry, the northern coast, from Kempsey to the Queensland border, was exploited by the growers, and mills for treating the cane were established at or near the area of cultivation. To-day the growing of sugar-cane is confined practically to the Richmond, the Tweed, and the Clarence Rivers, and the area farmed is yearly diminishing, as other more profitable crops can be grown. Queensland is the great sugar centre of Australia on account of its immunity from the frosts which retard the cultivation of the cane in higher latitudes.

The raw sugar manufactured in 1915-16 was valued at £344,592, and the molasses at £11,776, the quantity of cane crushed being 157,748 tons.

The number of mills and of persons employed, and the quantity of sugar and molasses manufactured, together with the capacity of horse-power used, during the last five years, are shown in the following table.

Year.	Sugar Mills.	Average Number of Employees.	Quantity manufactured.		Horse-power of Plant (full capacity).
			Sugar.	Molasses.	Steam.
			cwt.	gallons.	h.-p.
1911	4	469	345,978	796,440	3,546
1912	3	469	336,340	667,100	2,835
1913	3	486	443,840	966,000	2,885
1914-15	3	437	400,580	1,104,000	2,885
1915-16	3	463	382,870	1,099,000	2,032

Sugar Refinery.

There is but one sugar refinery in the State, and as it treats both local and imported raw product its operations are extending each year. During the year 1915-16 its operations compassed the handling of 2,235,660 cwt. of raw sugar, and resulted in an output of 2,177,540 cwt. of the refined article of commerce, valued at £2,531,274.

Tobacco Factories.

Tobacco of local manufacture but of foreign-grown leaf is to a large extent superseding the imported article; cigarettes made in this State now practically command the Australian market, and the manufacture of cigars is increasing also. About a seventh of the tobacco manufactured in New South Wales is grown in the State. In consequence of the shortage in shipping it might have been expected that an impetus would be given to the manufacture of tobacco of Australian growth, but this expectation has not been fulfilled. It is true that importations of cut and manufactured tobacco released from bond were less than those of the previous year by 38,638 lb. and 123,665 lb. respectively, and cigars by 44,457 lb.; but the importations of unmanufactured leaf released from bond were more by 263,327 lb., and of

cigarettes by 6,484 lb. To the imported tobacco which paid duty must be added 8,250 lb. of manufactured and 5,400 lb. of unmanufactured tobacco, 4 lb. of cigars, and 80 lb. of cigarettes, admitted duty free in 1914-15, and 168 lb. of cut tobacco, admitted duty free in 1915-16, for the use of the Naval Department of the Commonwealth.

The quantity of tobacco (including cigars and cigarettes) consumed in 1914-15 amounted in round numbers to 5,608,000 lb., and that for the succeeding year to 5,546,000 lb., which shows a falling-off of 62,000 lb., due entirely to a decreased consumption of cigars and cigarettes, for while the consumption of each of these items declined by about 60,000 lb., that of manufactured cut and plug tobacco increased by 58,000 lb. These proportions indicate the withdrawal from the population of a large section of the males between the ages of 18 and 45 years.

The actual figures of the consumption of tobacco in 1915-16 were 5,545,700 lb., averaging 2.97 lb. per head of the population—an average which has remained fairly constant during the past ten years, reaching its lowest point in 1907 with 2.93 lb., and its highest in 1913 with 3.13 lb.; in 1914-15 it was 3.01 lb. The consumption of cut and plug tobacco, during the year 1915-16, amounted to 2.13 lb. per head of the population, of cigars to 0.13 lb., and of cigarettes to 0.71 lb.

The proportion of manufactured cut and plug tobacco per head of the population has never reached 3 lb. during the decade 1906-16; its highest point being 2.43 lb. in 1906, and its lowest 2.10 lb. in 1914-15. Cigars never exceeded the consumption of 0.17 lb. per head of the population, and during the decade it has never been lower than 0.13 lb. (the average alike for 1906 and 1916), while in 1914-15 it was 0.16 lb. In 1906 the consumption of cigarettes per head of the population was 0.38 lb., and in 1915-16 it was 0.71 lb.; in 1912 and 1913 it reached 0.78 lb. During the period under review, the proportion of cigarettes increased from 13 to 24 per cent., while that of manufactured cut and plug tobacco declined from 83 to 72 per cent.

Of the total amount of tobacco consumed in 1915-16, about 90 per cent. was manufactured in Australia, the proportions being—plug and cut tobacco and cigarettes about 91 per cent., and cigars 63 per cent. The proportions of tobacco and cigarettes have not changed greatly since 1906, when they were 87 and 93 per cent. respectively; but a marked decrease occurred in the quantity of imported cigars during the period 1906-1916.

The following table shows details of the operations of tobacco factories for the last five years. The large increase in the number of females employed is due principally to the extension of cigarette making.

Year.	Establishments.	Average Number of Employees.		Tobacco Leaf used, exclusive of waste.		Tobacco, Cigars, and Cigarettes manufactured.		
		Males.	Females.	Australian grown Leaf.	Imported Leaf.	Tobacco.	Cigarettes.	Cigars.
				lb.	lb.	lb.	lb.	lb.
1911	26	697	765	745,405	4,617,756	3,996,471	1,899,462	87,818
1912	22	694	748	760,543	5,305,654	4,170,853	2,377,554	80,537
1913	24	692	805	727,759	5,085,083	3,885,562	2,526,130	86,264
1914-15	18	785	978	924,781	5,756,052	4,523,617	2,866,283	102,260
1915-16	17	884	1,085	988,183	6,363,446	5,041,172	3,043,134	98,626

The value at the factories of the tobacco manufactured in 1915-16 was £1,034,491; cigarettes, £874,901; and cigars, £64,518; the total being £1,973,910.

VII.—CLOTHING, TEXTILE FABRICS, ETC.

These industries afford the greatest numerical employment, but with regard to production, and to wages paid per employee, they are much below several other classes. The number of persons engaged in each branch of the industry during 1915-16 is shown in the following table.

Industry.	Establishments.		Average Number of Employees, including Working Proprietors.		Power Used.			Value of Machinery, Tools and Plant.
	Total.	Using Machinery.			Steam.	Electricity.	Other.	
			Males.	Females.				
Woollen and Tweed Mills	5	5	501	668	h.-p. 1,060	h.-p. 970	h.-p. 200	£ 192,457
Hosiery and Knitting Factories	19	18	84	522	15	122	3	27,435
Boots and Shoes	103	83	2,540	1,659	131	607	510	153,165
Slop Clothing	113	108	905	4,822	..	505	11	46,110
Clothing (Tailoring)	338	53	1,776	3,041	..	229	1	23,228
Clothing (Waterproof and Oilskin)	4	4	51	149	..	25	1	3,192
Dressmaking and Millinery (makers' materials)	210	55	136	4,477	..	135	2	18,162
Dressmaking and Millinery (customers' materials)	67	13	2	528	..	..	19	2,612
Dyeworks and Cleaning	11	7	68	48	6	37	..	8,008
Furriers	7	2	22	37	..	6	..	210
Hats and Caps	36	31	515	1,044	437	239	29	75,941
Shirts, Ties, and Scarfs	45	42	164	1,934	..	227	36	23,028
Rope and Cordage	8	5	290	11	220	220	269	39,809
Sailmaking	5	3	22	4	..	4	2	720
Tents and Tarpaulins	11	10	161	259	..	97	8	12,067
Total	982	439	7,237	19,203	1,869	3,423	1,091	626,144

A recently developed industry included in the preceding table is the making of shirts, ties, and scarfs. In 1898 only 74 persons were thus engaged, and in 1900, before the Federal tariff came into operation, 133. In 1915-16 the number was 2,098.

There has been a large increase in the number of persons engaged in the clothing trade, and in "slops" and order work the number of employees operating has expanded by rather more than 100 per cent. during the last ten years; and in the slop clothing branch more attention is being devoted to the manufacture of ready-made costumes for women. The woollen and tweed mills, and the hosiery and knitting factories, have been employed almost exclusively by the Defence Department in making equipment for the Australian Forces. While these industries have had their activities accelerated as a result of the War, the tailoring branch of this class has suffered a decrease.

Most of the industries under the classification showed good average time worked per employee. The orders individualised as woollen and tweed mills, waterproof and oilskin clothing, dyeworks and cleaning, sailmaking, and tents and tarpaulins, averaged 12 months. Other averages were:—Tailoring 11·92, hats and caps 11·91, shirts, ties, and scarfs 11·90, hosiery and knitted goods 11·86, boots and shoes 11·78, rope and cordage 11·77, dressmaking and millinery (makers' materials) 11·75, dressmaking and millinery (customers' materials) 11·54, slop-clothing 11·16, and furriers 11·05 months.

The number of persons, of whom the majority were machinists, then employed in tent and tarpaulin making was 420.

Woollen and Tweed Mills.

Although New South Wales is one of the greatest wool-producing countries in the world, those engaged in the manufacture of woollen materials

numbered only 1,169 in 1915-16. Woollen mills were amongst the earliest works established in the State, but the industry has progressed but little.

Details of employees and the output for the last five years are shown in the following table.

Year.	Woollen and Tweed Mills.	Average Number of Employees (includes Working Proprietors).			Woollen Cloth and Tweed manufactured.	Horse-power of Plant (full capacity).
		Males.	Females.	Total.		
1911	5	349	389	738	yd. 1,054,845	h.-p. 1,024
1912	5	351	413	764	1,143,046	1,029
1913	5	360	416	776	1,312,363	2,015
1914-15	5	379	576	955	1,718,903	2,493
1915-16	5	501	668	1,169	2,447,910	2,548

During 1915-16, 3,233,900 lb. of scoured wool were used in the mills, and in addition to the tweed and cloth shown above, and valued at £574,374, flannel, blankets, rugs, and shawls, to the value of £109,950, were also manufactured. Until the latter half of 1905 there was only a very small demand for locally woven cloth, and since then the market has grown but slowly. Nevertheless, the prejudice against Australian tweeds and similar fabrics is gradually diminishing, and it is possible that, when peace is concluded, the industry will expand beyond local needs, and that exports of manufactured cloth will take the place of exports of raw wool. In the meantime the difficulties confronting oversea communication with Europe should act as a large measure of protection for the fostering of the enterprise.

Hosiery and Knitting Factories.

Statistics of hosiery and knitting factories are available for the last five years; previously they were included with those of woollen and tweed mills.

The following statement shows the development of the industry:—

Year.	Factories.	Average number of Employees.			Value of Goods Manufactured.	Horse-power of Plant (full capacity).
		Males.	Females.	Total.		
1911	8	33	180	213	£ 41,008	h.p. 51
1912	9	65	308	373	71,692	88
1913	13	60	320	380	78,718	97
1914-15	16	71	416	487	111,475	138
1915-16	19	84	522	606	180,285	167

The output of the factories has increased largely since the establishment of the industry as an independent enterprise. The requirements of the Defence Department have been a great stimulus to this branch of textile industry, and some of the factories have been working overtime ever since the opening months of the War.

Boot and Shoe Factories.

In the year 1810, soon after Governor Macquarie's assumption of office, a tannery was started in the settlement of Sydney, and shoemakers soon became in special request. In 1823, when common labourers did not earn more than 4s. or 5s. per week with rations and the rudest of lodging, shoemakers' wages were officially listed as 6s. per day, without board and lodging,

and were exceeded only by those of caulkers (7s. 6d.), farriers (6s. 6d.), and ironfounders (6s. 3d.). With the introduction of machinery, the manufacture of boots and shoes underwent a revolution. Under recent Wages Boards' awards over forty principal specialised occupations are mentioned in the schedule of weekly payments for labour performed. It will thus be seen that the modern factory-hand engaged in some branch of boot and shoe making in no respect resembles the craftsman of a hundred years ago.

For the year 1915-16 the output of boots and shoes was valued at £1,353,174; slippers, etc., at £34,393; and uppers, at £12,440. In the manufacture of boots, etc., in 1915-16 approximately 4,964,495 lb. weight of sole leather was used, and 8,072,657 square feet of upper leather:—

Year.	Boot and Shoe Factories.	Average Number of Employees (includes Working Proprietors).			Output (as returned by Manufacturers).		
		Males.	Females.	Total.	Boots and Shoes.	Slippers, Infants' Shoes, Canvas and Cloth Shoes.	Uppers.
1911	106	2,818	1,593	4,411	pairs. 3,730,760	pairs. 439,425	pairs. 71,138
1912	103	2,779	1,612	4,391	3,885,267	399,874	61,647
1913	105	2,703	1,559	4,262	3,640,068	310,026	53,295
1914-15	108	2,634	1,471	4,105	3,530,172	311,873	54,777
1915-16	103	2,540	1,659	4,199	3,552,021	291,366	43,735

Hat and Cap Factories.

There has been considerable expansion in the industry organized for the manufacture of hats and caps. Until 1898 it employed fewer than 100 persons, but in 1915-16 there were 1,559, of which number 67 per cent. were females.

Year.	Hat and Cap Factories.	Average Number of Employees (includes Working Proprietors).			Power of Machinery (full capacity).	Value of Machinery, Tools, and Plant.
		Males.	Females.	Total.		
1911	32	537	1,029	1,566	h.p. 625	£ 60,807
1912	35	546	1,051	1,597	863	61,873
1913	38	570	975	1,545	786	69,396
1914-15	36	511	918	1,429	821	68,316
1915-16	36	515	1,044	1,559	768	75,941

The hats and caps manufactured during 1915-16 numbered 2,574,810, valued at £413,576.

State Clothing Factory.

Up to the 31st December, 1912, the State Clothing Factory was worked as a branch of the Government Stores Supply Department, but since the 1st January, 1913, it has been classed as an industrial undertaking. The trading account at 30th June, 1915, showed stock on hand to the value of £11,463. The value of the manufactured clothing was £39,543, and was supplied to the Public Service only. The balance-sheet for the year ending 30th June, 1916, shows a profit of £709, after providing for interest and sinking fund; the loss on the previous year was £424. The percentage of working expenses to sales was slightly in advance of the previous year, and the sales showed a decrease of £3,088 on those of 1914-15, but the accumulated loss had been reduced to £432.

The capital at the 30th June, 1916, was £12,865, the addition thereto during the year being only £40. The working capital of £12,000 was provided from Expenditure Suspense Account by the Treasurer, at the moderate rate of 3 per cent. It is pointed out that the clothing being for the service of Public Departments, any profit of the undertaking through enhanced prices is to the detriment of the votes of the Department concerned, and the losses to their advantage, provided the rates do not excel those which would obtain if supplies were secured from contracting firms.

VIII.—BOOKS, PAPER, PRINTING, ETC.

The industrial orders listed under Class VIII—Books, Paper, Printing, etc., constitute a group which includes manufactures treating (1) electrotyping and stereotyping, (2) paper-making, paper boxes, etc., (3) photo-engraving, and (4) printing and binding. These combined industries give employment to 9,368 persons, 7,746 of which number are engaged in printing and book-binding. In the process of bookbinding and in the manufacture of paper boxes and bags, women are employed largely and on an increasing scale.

The details of each industry for the year 1915-16 are as follow:—

Industry.	Establishments.		Average Number of Employees (includes Working Proprietors).		Power Used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.	Males.	Females.	Steam.	Electricity.	Other.	
					h.-p.	h.-p.	h.-p.	£
Electrotyping and Stereotyping	8	8	81	6	...	64	...	16,905
Paper-making, Paper-boxes, Bags, etc. ...	30	27	593	766	1,016	241	36	181,253
Photo-engraving	13	13	156	20	...	92	...	18,803
Printing and Binding	407	367	6,014	1,732	17	3,201	1,047	1,060,041
Total	458	415	6,844	2,524	1,033	3,598	1,083	1,277,002

All orders of this class made full average time with the exception of printing and binding, the average time of which was 11.97 months.

IX.—MUSICAL INSTRUMENTS, ETC.

Fourteen establishments, of which seven used machinery, were during the year 1915-16 engaged in the manufacture and repair of musical instruments and sewing machines. The persons employed in these pursuits numbered 337 males and 44 females, who made full average time for the period. The average horse-power of machinery used was 209, all of which was derived from electricity. The value of machinery and plant was £13,866, and the most important of the industries was piano-making.

X.—ARMS AND EXPLOSIVES.

The manufacture of small-arms and ammunition is a matter of national importance, and it has received the attention of the Commonwealth Government, which, on the 8th June, 1912, formally opened a small-arms factory at Lithgow. There are now eight establishments in this State which are engaged in the manufacture of explosives; but details of employment, average time made, machinery in use, and value of plant and machinery may not be published at present.

XI.—VEHICLES AND FITTINGS, SADDLERY, ETC.

The work performed in these establishments is mainly in the repair of vehicles, though there are many at which coaches and waggons are built throughout. With the extension of the railways and tramways, and the introduction of other improvements in locomotion, this industry cannot show much further development. In many workshops in the metropolitan district persons who were previously engaged in building vehicles for horse traction are now employed in the motor industry, as vehicles of the latter class are coming into general use, especially in the city—in most cases the chassis are imported, and the bodies built locally. Other branch industries, such as cycle-building, etc., are growing in importance, and the whole of the group employs more than twice as many people as in 1902.

The following table shows the operations of each industry during 1915-16.

Industry.	Establishments.		Average Number of Employees (includes Working Proprietors).		Power used.			Value of Machinery, Tools, and Plant.	
	Total.	Using Machinery.			Steam.	Electricity.	Other.		
			Males.	Females.					
						h.p.	h.p.	h.p.	£
Coach and Waggon Building	217	109	2,198	26	55	467	414	75,430	
Cycles and Motors	112	103	936	25	2	217	200	44,332	
Perambulators	3	3	46	4	...	5	3	390	
Saddlery and Harness	58	12	603	51	...	29	8	13,800	
Spokes, etc.	11	11	142	1	132	65	...	15,945	
Whips	3	...	16	1	...	...	...	5
Total	404	238	3,941	108	190	783	625	149,952	

Of the foregoing orders under this classification, perambulators and whips made full time, coach and waggon building made 11·95 months, the order cycles and motors, and the order saddlery, harness, etc. 11·78 months, and the order spokes, etc. 10·73 months.

XII.—SHIP AND BOAT BUILDING, ETC.

Hitherto, nearly all the ships built in the State have been small wooden vessels for the river and island trades, or for passenger traffic on Sydney Harbour. The ferry steamers, some of which are built in the private docks of Sydney, are among the finest in the world. There is always a considerable amount of boat-building in the metropolitan yards, occasioned by the constant demand for yachts, motor-launches, and other small craft. In the docking of ships, fewer persons are employed than in former years, although greater accommodation has been provided, and there are now four large graving-docks at Sydney. Employment is subject, however, to great fluctuation under this class, though the ship-building proposals of the Commonwealth, if carried into effect, will bring about a remarkable expansion of the industry. A description of the docks is given in the chapter on Shipping.

The following table shows the details of each industry for 1915-16.

Industry.	Establishments.		Average Number of Employees (includes Working Proprietors).		Power used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.			Steam.	Electricity.	Other.	
			Males.	Females.				
					h.-p.	h.-p.	h.-p.	£
Docks and Slips... ..	6	6	2,550	1	1,708	506	...	381,410
Ship and Boat Building and Repairing ...	24	15	669	3	204	199	40	17,471
Total	30	21	3,219	4	1,912	699	40	398,881

Full time was made by persons engaged on docks and slips, and 11·93 months by those engaged in ship and boat building and repairing. In the latter order of industrial employment there has been a great decline on the figures of 1914-5 amounting to 2,691 males, whilst there has been an increase of employment on docks and slips, resulting in an addition to that order of 1,202 males. Incidental to the development of the ship-building industry in New South Wales, the Commonwealth Government arranged for the construction of vessels of war for the Australian Navy, at the Fitzroy Dock, Sydney.

State Dockyard and Workshops, Newcastle.

A Government Dockyard and workshops have been erected at Newcastle, and were opened in November, 1915. The approximate cost of the work was £130,000. The machinery is electrically driven. Work of repair and construction, amounting to £100,000, was carried out during the year for the Public Works and other Departments of the State. An average of 1,000 men are employed. A floating dock, to be used in conjunction with the establishment, is in course of erection. When the works are finally and fully equipped, the State will possess the most up-to-date establishment in Australia.

XIII.—FURNITURE, BEDDING, AND UPHOLSTERY.

Industries connected with the manufacture of furniture, bedding, etc., have expanded considerably since 1900, when only 1,916 persons were engaged therein.

The particulars relating to each industry in Class XIII for the year 1915-16 are shown in the following table :—

Industry.	Establishments.		Average Number of Employees (includes Working Proprietors).		Power used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.			Steam.	Electricity.	Other.	
			Males.	Females.				
Bedding, Flock, and Upholstery	29	20	502	139	h.-p. 40	h.-p. 327	h.-p. 58	£ 10,187
Chair-making	15	14	174	16	...	122	10	3,126
Furnishing Drapery, etc.	18	12	71	249	...	47	...	2,734
Furniture, Cabinet-making, and Billiard Tables	159	136	2,099	22	208	1,117	310	55,809
Picture Frames... ..	17	16	103	36	...	29	...	2,983
Window Blinds	8	4	47	6	...	13	...	672
Total	246	202	2,996	463	248	1,655	373	75,510

Of the six orders arranged under Class XIII—Furniture, Bedding, etc. four made full time, the order (1) bedding, flock, and upholstery made 11·71 months, and the order (4) furniture and cabinet-making and billiard tables made 11·53 months.

A factory at Drummoyne, near Sydney, has been acquired by the Department of Public Instruction for the manufacture of furniture for State schools, and during the year 1915–16 its output was valued at £23,363.

XIV.—DRUGS, CHEMICALS AND BY-PRODUCTS.

There are several large establishments for the manufacture of drugs and chemicals, and of by-products, including many articles such as baking-powder, blue, blacking, etc., for domestic use, which are gradually superseding imported goods.

A considerable proportion of those employed are females, occupied principally in packing and labelling the prepared commodities for public distribution. The orders (1) baking-powder and self-raising flour made full time, order (4) inks, polishes, etc. (including fertilisers) made 11·99 months, order (3) paints and varnishes 11·90 months, and order (2) chemicals, drugs, and medicines 11·83 months.

The following table exhibits particulars relating to the two orders of industrial manufacture listed under Class XIV.

Industry.	Establishments.		Average Number of Employees (includes Work-ing Proprietors).		Power used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.			Steam.	Electricity.	Other.	
			Males.	Females.				
Baking Powder and Self-raising Flour ...	17	17	94	134	h.-p. ...	h.-p. 157	h.-p. 16	£ 10,615
Chemicals, Drugs, and Medicines	44	34	534	386	141	415	7	149,159
Paints and Varnishes	12	12	110	15	16	161	112	15,112
Inks, Polishes (including Fertilizers, etc.)	21	15	277	131	62	581	87	63,857
Total	94	78	1,015	676	219	1,314	222	232,743

Essential Oils.

A great number of Australian native plants secrete essential oils, but the processes of extraction are as yet undeveloped. From information supplied by the Curator of the Sydney Technological Museum it is authoritatively established that the following products can be obtained in large quantities, namely:—aromatic alcohol geraniol, a constituent used in the manufacture of synthetic rose oils; oil of a species of eucalyptus producible at a very cheap rate as a substitute for lemon oil, which it strongly resembles, containing, as it does, twice as much citral; citral used for flavouring purposes and perfumes; citronella, the chief constituent of the citronella oil, used extensively for perfuming soap and for similar purposes, and eucalyptus oils, which are used for pharmaceutical purposes, and in metallurgy as a means of separating metallic sulphides from the gangue by a flotation process.

XV.—SURGICAL AND OTHER SCIENTIFIC INSTRUMENTS.

Most of the establishments listed under this class, 14 in number, are engaged in the manufacture of optical instruments (spectacles, etc.), and during the year 1915–16 employed 88 males and 27 females, who made full

time. The average power of the electrical machinery used at 10 of the establishments was 13 horse-power, and of gas 1 horse-power, and the value of machinery and plant was £5,099.

XVI.—JEWELLERY, TIMEPIECES, AND PLATED WARE.

Clock and watch making is not yet established as an industry of the first importance in New South Wales, and while there are numerous small establishments where timepieces may be repaired, there are but few in which the articles are actually manufactured, and these are included with manufacturing jewellery.

The following table exhibits particulars relating to the two orders of industrial manufacture listed under Class XVI.

Industry.	Establishments.		Average Number of Employees (includes Working Proprietors).		Power used.		Value of Machinery, Tools and Plant.
	Total.	Using Machinery.			Electricity.	Other.	
			Males.	Females.			
					h.p.	h.p.	£
Electro-plating	13	13	148	15	109	33	10,968
Manufacturing Jewellery	43	33	453	72	128	...	19,207
Total	56	46	601	87	237	33	30,175

In 1900 there were only 102 employees engaged in manufacturing jewellery, but in consequence of the import duty under the Federal tariff a number of factories were opened, the figures for 1915-16 being 43 establishments with 525 employees. The progress of this and similar industries which supply commodities that are not essentials is a notable indication of the general prosperity of the State, though it must be remembered that the order (2) manufacturing jewellery includes such useful and necessary labour as the repair of clocks, watches, and timepieces generally. The average time made by employees in both orders of the class was 11·95 months. Australian gemstones are used extensively in the jewellery trade of the State, and there is a growing demand, especially for precious opal, in foreign countries and in the British Dominions oversea.

XVII.—HEAT, LIGHT, AND POWER.

The production of heat and light and the generation of power are industrial enterprises which have been systematically pursued throughout the State, wherever a population centre existed sufficiently large to sustain the cost. To Tamworth belongs the credit of being the first Australian municipal town outside the metropolitan area to have its streets lighted by electricity. There are now eleven municipalities lighted by electricity, and twenty-one lighted by gas. Of 126 establishments for the generation of electric light and power, there are eighty-three in the country outside the metropolitan area, with machinery and plant valued at £463,061 out of a total value of £2,024,328 for the State, and employing 474 persons out of a total of 1,122 for the State. Of 45 establishments engaged in gasworks and kerosene, there are 37 in the country outside the metropolitan area,

with machinery and plant valued at £546,472 out of a total value of £1,658,803 for the State, and employing 475 persons out of a total of 1,440 for the State.

Establishments connected with the supply of heat, light, and power show an increase in each year, and the figures for 1915-16 are as follow :—

Industry.	Establishments.		Average Number of Employees (includes Working Proprietors).		Power used.			Value of Machinery, Tools and Plant.
	Total.	Using Machinery.			Steam.	Electricity.	Other.	
			Males.	Females.				
Coke-works	14	14	580	1	1,459	663	40	210,130
Electric Apparatus	37	35	448	14	...	249	110	35,281
Electric Light and Power	123	126	1,115	7	102,320	...	2,737	2,024,328
Hydraulic Power	1	1	36	...	500	1	...	27,066
Gas-works and Kerosene	45	39	1,437	3	1,705	548	301	1,658,803
Lamps, Fittings, etc....	5	4	85	2	...	37	10	7,025
Total	228	219	3,701	27	106,014	1,498	3,198	3,962,633

A marked development in this class is to be attributed to the necessity of creating a supply of electric power for operating tramways in the Sydney and suburban area, as well as for the demands of extended lighting systems to replace or to duplicate the use of gas.

The average time made during the year 1915-16 by the employees of the six orders of Class XVII—Heat, Light, and Power was as follows :—Orders 5 and 6, lamps, fittings, etc., and hydraulic power, full time ; gasworks and kerosene 11·98 months, coke-works 11·70 months, electric light and power 11·62 months, and electric apparatus 10·72 months.

Electric Light and Power Works.

The value of the plant and machinery used in furnishing electric power and light was £2,024,328, and the engines had a capacity of 147,950 horse-power. In 1915-16 the electric light produced was 37,226,000 kilowatt hours, valued at £394,059, and the power 183,343,000 kilowatt hours, valued at £702,146 ; while coal weighing 367,886 tons was used in 1915-16 for the processes of generation.

The following table exhibits particulars relating to the number of establishments, the average number of employees, full capacity of horse-power of machinery and the value of plant, tools, etc., devoted to the generation of electric energy during the five years, 1911—1915-16.

Year.	Electric Supply Works.	Average Number of Employees (includes Working Proprietors).	Machinery, Tools, and Plant.	
			Power (full capacity).	Value.
			h.-p.	£
1911	104	889	89,155	1,257,173
1912	113	1,073	110,511	1,350,488
1913	115	1,118	114,371	1,391,007
1914-15	129	1,161	127,551	1,597,624
1915-16	126	1,122	147,950	2,024,328

Within city and suburban boundaries there are numerous small establishments, the systems of the Government Tramways, the Sydney Municipal Council, and the Electric Light and Power Supply Corporation, Limited (Balmain) being the most extensive. Outside the metropolitan district the largest establishments are connected with mines, as at Broken Hill and Cobar, or are controlled by municipal councils. Practically all the power is generated from coal.

The electric power for the Sydney tramways is obtained from a principal power-house at Ultimo and several auxiliary stations, and a large power-plant is in course of construction at White Bay, Balmain.

State Power Supply.

The balance-sheet of the State Power Station, Uhr's Point, discloses a loss of £1,998 for the year 1915-16, and the accumulated loss at the 30th June, 1916, was posted as £3,875. During the twelve months the sales increased by 97·8 per cent. upon those of the previous year. The trading expenses to sales were 110·7 per cent., but this was a reduction upon the prior period of 56 per cent.

Gas-works, etc.

Although considerable progress has been made in the installation of electric lighting plants, the use of gas for purposes of illumination, power, and cooking is extending continuously.

The following table shows particulars of the operations of gas-works during each of the last five years.

Year.	Gas-works.	Average Number of Employees.	Gas made (1,000 cubic feet).	Machinery, Tools, and Plant.	
				Power (full capacity).	* Value.
1911	47	1,053	4,275,859	h.-p. 1,928	£ 888,711
1912	47	1,298	4,820,512	2,223	1,236,541
1913	52	1,351	5,536,139	2,107	1,112,828
1914-15	53	1,485	6,080,270	4,300	1,749,724
1915-16	45	1,440	6,234,785	5,472	1,658,803

* The value of the plant shown in this column does not include mains.

During 1915-16 the quantity of coal used for gas was 427,716 tons, which, with 12,299 tons of shale, produced, in addition to the gas (valued at £988,619), 253,212 tons of coke (valued at £120,739), 6,095,254 gallons of tar (valued at £74,423), and 3,114,465 gallons of ammoniacal liquor (valued at £7,814).

Mineral Oil.

Extensive works for treating oil-shale have been established at Newnes, in the Wolgan Valley, at New Hartley, at Murrurundi, and at Hamilton, near Newcastle. Only two shale-oil plants were operating during the year 1915-16, namely, that of Torbane, near New Hartley, the property of

the Commonwealth Oil Corporation, Limited, and that of No. 2 Shale Shaft, Newnes, the property of Messrs. John Fell and Company, and formerly owned by the British Australian Oil Company. Particulars relating to oil-shale may be found in the chapter on the Mining Industry.

Coke-works.

At the coke-works, 14 in number, 588,481 tons of coal were used in 1915-16 to produce 395,656 tons of coke, valued at £332,820. Further information regarding coke is contained in the chapter on the Mining Industry.

XVIII.—LEATHERWARE.

In 1915-6 there were 26 establishments with 413 males and 169 females employed in the manufacture of leatherware (not elsewhere included), the majority of the employees being engaged in making bags and portmanteaux. The employees in this class were busily engaged throughout the year, averaging 11·75 months per individual. All the establishments in this class, with a single exception, used machinery, and the average horse-power utilised amounted to 179, of which 102 horse-power was generated by gas engines, 71 by electricity, and 6 by steam, while the value of the machinery and plant was £14,718.

XIX.—MINOR WARES.

Of the minor industries which cannot be classified under any of the preceding headings, the more important are the manufacture of brooms and brushes, umbrellas, baskets, wicker-ware, and mats—the brooms are made principally from millet grown in the State. An interesting feature of this industry is the employment it affords to persons afflicted with blindness, and in 1915-16 there were 105 persons in the Sydney Industrial Blind Institution who were employed in the manufacture of brushes, baskets, mats, etc.

The particulars of the different industries listed under Class XIX for the year 1915-16 were as follow :—

Industry.	Establishments.		Average number of Employees (includes Working Proprietors).		Power used.			Value of Machinery, Tools, and Plant.
	Total.	Using Machinery.	Males.	Females.	Steam.	Electricity.	Other.	
Baskets, Wickerware, Matting, etc. ..	9	..	134	4	h.p.	h.p.	h.p.	£
Brooms and Brushware	23	20	249	70	...	42	41	230
Rubber Goods	9	9	309	215	256	309	...	6,140
Toys	8	8	37	5	...	17	15	73,260
Umbrellas	5	3	46	75	...	5	...	2,528
Other Industries	27	17	233	178	79	210	12	1,172
Total	81	57	1,008	547	335	583	68	29,307
								112,637

The average time made by employees in this class was as follows :—
Order (5) umbrellas full time, order (1) baskets and wickerware, matting, etc. 11·79 months, order (2) brooms and brushware 11·75, order (3) rubber goods 11·71, order (6) other industries 11·36, and order (4) toys 9·76.

STATE BUILDING CONSTRUCTION.

Building construction was proclaimed a State industrial undertaking as from the 1st October, 1913. It operates in three classes of work for the Public Departments, viz. :—1. Contracts—(a) Accepted in competition (as a general rule) with ordinary building firms; (b) Quotations accepted after comparison with Government Architect's estimates. 2. Works of value exceeding £100—on the basis of all costs for wages and materials, with overhead charges of 10 per cent. in metropolitan area, and $12\frac{1}{2}$ per cent. for country districts—such work as alterations to existing buildings and emergency works come under this class. 3. Jobs of value under £100, on the basis of all costs for wages and materials, with an overhead charge of 20 per cent.

The report and balance-sheet for 1915-16 states that the activities of this State undertaking resulted in a surplus of £8,836 for the twelve months ended 30th June, 1916, after providing for interest and sinking fund, showing an increase, as compared with the previous year, of £2,239. The reserves for depreciation and other contingencies were fully provided for. The capital expenditure at 30th June, 1916, was £17,499, and the accumulated surplus profits at the same date were £17,416, with reserves of £13,265 for depreciation of plant, tools, buildings, etc., and for workmen's compensation and holiday pay. The undertaking was therefore in a very strong position, having accumulated a surplus sufficient (within a few pounds) to repay the whole of the capital, and reserves to meet any emergency that might arise. The result, after operations extending over only two years and nine months, revived the question of a previous report, as to whether the charges for public works could not be reduced, thus lowering their capital expenditure, and to some extent saving annual interest.

PERMANENT AND CASUAL EMPLOYMENT IN MANUFACTURING CLASSES.

Certain classes of manufacturing industry are subject to seasonal fluctuations in the volume of employment, but the War has also had its influence in this connection, as, for instance, in the case of workers in metals and machinery. This class included no fewer than fifteen orders, each of which, to a greater or less extent, exhibited during the year 1915-16 an increase in the number of persons employed on the figures of 1914-15. The greatest increase was in the order (5) listed as engineering, in which the additional or casual workers for the twelve months numbered 994. The permanent employees numbered 7,179, and of these only 64 were females. The additional employees in railway and tramway workshops (order 9) during the year numbered 669 (permanently employed, 9,209 males and 23 females). The number of permanent employees listed under the order (10) smelting in 1915-16 was 2,948 males and 16 females, and the greatest number of workers during the year was 3,628, showing an addition of 671, but in this connection the average time worked per employee (namely, 9·72 months) must be taken into consideration.

Out of a total of 3,459 persons permanently employed under the order (7) ironworks and foundries 25 were females. During the year the number of employees increased to 4,013, owing to an addition of 552 male and 2 female workers. The order (12) tin-smithing had a permanent pay-roll of 1,044 (846 males and 198 females) and during the year an addition was engaged totalling 220 persons (211 males and 9 females). The order (1) agricultural implements had a permanent pay-roll of 597, including 10 females, and the year's additional or casual workers numbered 145, including 2 females. The

order (13) wireworking had a permanent pay-roll of 486 persons, including 15 females, and the year's additional or casual workers were 128, including 3 females.

The number of additional or casual hands engaged under other orders of Class V were as follows:—Order (6) galvanized iron-working, permanent 716, additional 118; order (8) railway carriages and rolling stock, permanent 990, additional 103; order (14) other metal works (including nail and lead works), permanent 464, additional 84; order (3) brass and copper, permanent 309, additional 59; order (11) stoves and ovens, permanent 364, additional 39; order (2) art metal works, permanent 125, additional 16; and order (4) cutlery, permanent 45, additional 5.

The greatest increases in this class were in the orders engineering, railway and tramway workshops, smelting, and ironworks and foundries. On account of the great similarity of work performed, classes 5 and 9 (engineering and railway and tramway workshops) may be considered together. Order (10) smelting is apparently subject to broken time made by permanent hands—a consideration which must be taken as an off-set to increase in the number of additional hands employed. Order (7) ironworks and foundries owed its expansion of capacity for additional employment (like other branches of manufacturing industry) to the interruption of communication with the countries overseas that specialised in certain imports no longer available, of which machinery formed no inconsiderable section. Class V included practically all males. Of 27,967 hands on the permanent pay-roll, only 436 were females; and of additional or casual employees, numbering 3,705, only 33 were females; the total addition represented 13·26 per cent. on the number of permanent hands employed, or 13·34 per cent. on the males and 7·57 per cent. on the females.

The next to exhibit an expansion in its capacity for absorbing additional labour was Class VII, Clothing and Textile Fabrics, which employed during the year 1915–16 an increased number of hands amounting to 3,416 persons, or 912 males and 2,504 females. The total increase in the number of workers listed in this class represented 12·92 per cent. on the number of permanent hands employed, or 12·60 per cent. on the males and 13·04 per cent. on the females. The order (3) slop clothing showed the greatest volume of additional employment, the increase of 816 persons representing 109 males and 707 females. The order (4) tailoring came next with 755 additional workers, of whom 333 were males and 422 were females. The order (6) dressmaking and millinery (makers' materials) showed a highest rate of employment marking a total increase of 694 workers, or 26 males and 668 females. The order (2) boots and shoes exhibited an increase of 357 workers or 221 males and 136 females; the order (10) hats and caps 161 workers, or 58 males and 161 females; the order (11) shirts, ties and scarfs, 200 workers, or 7 males and 193 females; the order (1) woollen and tweed mills, 98 workers, or 48 males and 50 females; the order (12) rope and cordage, 74 workers, all males; the order (14) tents and tarpaulins, 62 workers, or 18 males and 44 females; the order (1A) hosiery and knitted goods, 49 workers including 2 males; the order (7) dressmaking and millinery (customers' materials) 37 additional workers including 2 males; the order (5) waterproof and oilskin clothing, 32 workers, or 7 males and 25 females; the order (8) dyeworks and cleaning, 8 workers including 3 males; the order (9) furriers, 8 workers, all females; and the order (13) sailmaking, 7 workers including one female.

Class VI.—Food and Drink absorbed additional labour at one time of the year amounting to 2,388 persons, or 1,722 males and 666 females. The

total increase in the number of workers listed in this class represented 16·57 per cent. on the number of permanent hands employed, or 16·38 per cent. on the males and 17·10 per cent. on the females. The order (11) jam and fruit canning showed the greatest volume of additional or casual employment under this class, the increase of 361 workers including 92 males and 269 females. The order (15) aerated waters, cordials, etc., came next with 307 additional workers, of whom 277 were males and 30 were females. The order (19) ice and refrigerating showed a highest rate of employment marking a total increase of 246 workers, only one of whom was a female. The order (10) flourmills exhibited an increase of 231 workers, all males; the order (16) breweries, 164 workers including 1 female; the order (8) confectionery, 159 workers, or 97 males and 62 females; the order (7) biscuits, 144 workers, or 102 males and 42 females; the order (6) meat and fish preserving, 141 workers including 20 females; the order (21) tobacco and cigars, 130 workers, or 42 males and 88 females; and the order (2) butter factories, 116 workers, all males.

In addition to the number of male and female workers returned as being employed in the manufacture of butter and cheese, and other secondary pastoral products, under the provisions of the Factories and Shops Act, a very considerable manufacture was maintained on farms. The chapter on Population shows, according to returns collected by the police, the proportionate number of females who were partly engaged in pastoral pursuits, and partly engaged in the discharge of domestic duties; but the separate volume of their production of butter, cheese, bacon, etc., cannot be ascertained.

Eleven orders of Class VI—Food and Drink, employed few additional hands during the year 1915–16, and the greatest number for any one branch was less than 100. The order (9) cornflour, oatmeal, etc. enrolled 98 additional workers, 20 of whom were males; the order (17) condiments, coffee, spices, etc., 66 workers, 30 of whom were females; the order (12) pickles, sauces and vinegar, 61 workers, of whom 25 were males and 36 were females; the order (14) sugar refinery, 47 workers including 5 females; the order (3) butterine and margarine, 31 workers including 1 female; the order (13) sugar mills, 26 workers, all males; the order (1) bacon-curing, 25 workers including 1 female; the order (5) condensed milk, 17 workers including 2 females; the order (20) malting, 8 workers, all males; the order (4) cheese factories 6 workers, all males; and the order (18) distilleries, 4 workers, all males.

Class IV.—Working in Wood absorbed additional labour at one time of the year amounting to 1,186 persons, or 1,174 males and 12 females. The total increase in the number of workers listed in Class IV represented 16·06 per cent. on the number of permanent hands employed, or 16·04 per cent. on the males and 15 per cent. on the females. The order (4) saw-mills showed the greatest volume of additional or casual employment under this class, the increase of 554 workers including 6 females. The order (3) joinery came next with 393 additional workers, of whom 2 were females. The order (1) boxes and cases showed a highest rate of employment marking a total increase of 160 workers, of whom 4 were females. The order (2) cooperage exhibited an increase of 44 workers, all males; and the order (5) wood-turning, wood-carving, etc. an increase of 35 workers, all males.

Class III.—Stone, Clay, Glass, etc. absorbed additional labour at one time of the year amounting to 799 persons including 5 females. The total increase in the number of workers listed represented 14·61 per cent. on the number of hands permanently employed, or 12·85 per cent. on the males and 7·46 per cent. on the females. The order (1) bricks and tiles exhibited an increase of 344 workers including 1 female; the order (4) lime, plaster,

cement, and asphalt, 196 workers, all males ; the order (5) marble, slate, and stone-dressing, 132 workers, all males ; the order (7) pottery, 67 workers including 3 females ; the order (3) glass (ornamental), 44 workers, all males ; the order (2) glass (including bottles) 16 workers including 1 female ; and the order (6) modelling, etc. 2 workers, both males.

Class VIII.—Books, Paper, Printing, etc., absorbed additional labour at one time of the year amounting to 841 persons, or 536 males and 305 females. The total increase in the number of workers listed in Class VIII represented 8·97 per cent. on the number of hands permanently employed, or 7·83 per cent. on the males and 11·69 per cent. on the females. The order (4) printing and binding showed the greatest volume of additional or casual employment under this class, the increase amounting to 632 workers, or 447 males and 185 females. The order (2) paper-making, paper boxes, bags, etc., came next with 194 additional workers, of whom 74 were males and 120 were females. The order (3) photo-engraving showed an increase of 11 workers, all males ; and the order (1) electrotyping and stereotyping an increase of 4, all males.

Class I.—Treating Raw Material, etc. absorbed additional labour at one time of the year amounting to 620 persons including 10 females. The total increase in the number of workers listed represented 17·57 per cent. on the number of hands permanently employed, or 17·76 per cent. on the males and 10·64 per cent. on the females. The order (4) wool-scouring and fell-mongering showed the greatest increase in additional or casual labour of the orders arranged under this classification, the increment of workers during the year amounting to 270 including seven females. The order (3) tanneries came next with 214 additional workers including two females ; then the order (1) boiling-down, tallow refining, etc. 83 workers including one female ; the order (5) chaff-cutting, corn-crushing, etc. 45 workers, all males ; and the order (2) sausage skins, etc. 8 workers, all males.

Class XII.—Ship and Boat Building and Repairing absorbed additional labour at one time of the year amounting to 594 persons including 9 females. The total increase in the number of workers listed represented 18·43 per cent. on the number of hands permanently employed, or 18·17 per cent. on the males and 2·25 per cent. on the females. The order (2) ship and boat building and repairing accounted for 424 additional or casual workers including 9 females ; and the order (1) docks and slips for 170 additional and casual workers, all males.

Class XI.—Vehicles, Saddlery, Harness, etc., absorbed additional labour at one time of the year amounting to 570 persons including 5 females. The total increase in the number of workers listed represented 14·08 per cent. on the number of hands permanently employed, or 14·34 per cent. on the males and 4·63 per cent. on the females. The order (1) coach and waggon building accounted for 377 additional workers, all males ; the order (2) cycles and motors, for 90 workers, all males ; the order (4) saddlery, harness, etc. for 81 workers including five females ; the order (5) spokes, etc. 18 workers, all males ; and the order (3) perambulators, 4 workers, all males. The order (6) whips engaged 17 workers, including one female, throughout the twelve months.

Class XVII.—Heat, Light, and Power absorbed additional labour at one time of the year amounting to 549 persons, all males, an increase in the number of workers listed representing 14·73 per cent. on the total number employed, and 14·10 per cent. on the males. The females employed under this classification numbered 27 throughout the twelve months. The order (4) gas works and kerosene account for 339 additional male workers ; the order (3) electric light and power for 94 male workers ; the order (1) coke works for 69 ; the order (2) electric apparatus for 44 ; and the order (5) lamps,

fittings, etc. for 3. The order (6) hydraulic power maintained its permanent pay-roll of 36 members throughout the year.

Class XIII.—Furniture, Bedding, etc. absorbed additional labour at one time of the year amounting to 506 persons including 79 females. The total increase in the number of workers listed represented 14·61 per cent. on the number of hands permanently employed, or 14·25 per cent. on the males, and 16·88 per cent. on the females. The order (5) furniture and cabinet making (exclusive of billiard tables) accounted for 287 additional works, all males; the order (1) bedding, flock, and upholstery accounted for 100 additional workers 45 of whom were females; the order (3) chairmaking, 42 workers, all males; the order (4) furnishing drapery, etc., 35 workers including 7 males; the order (6) picture frames, 28 workers including 6 females; and the orders (2 and 7) billiards (considered as a branch of the industry separate from furniture and cabinet-making) and window blinds each 7 workers, all males.

Class XIV.—Drugs and Chemicals absorbed additional labour at one time of the year amounting to 307 persons, including 228 males and 79 females. The total increase in the number of workers listed represented 18·15 per cent. on the number of hands permanently employed, or 22·46 per cent. on the males, and 11·69 per cent. on the females. The order (2) chemicals, drugs, and medicine accounted for 163 additional workers including 51 females; the order (4) inks, polishes, etc. (including fertilizers) for 86 additional workers including 3 females; the order (1) baking powder, self-raising flour, etc., 45 workers including 25 females; and the order (3) paints and varnishes for 13 additional male workers.

Class XIX.—Minor Wares (N.E.I.) absorbed additional labour at one time of the year amounting to 179 persons 80 of whom were females. The total increase in the number of workers listed represented 11·51 per cent. on the number of hands permanently employed, or 9·82 per cent. on the males and 14·63 per cent. on the females. The order (6) other industries (*i.e.* industries of this class not included in any of the other orders) accounted for 77 additional workers, or 36 males and 41 females; the order (3) rubber goods for 46 of whom 21 were females; the order (2) brooms and brushware for 29 of whom 13 were females; the order (1) baskets and wickerware for 17, all males; the order (5) umbrellas for 6 of whom one was a male; and the order (4) toys for 4, all males.

Class XVIII.—Leatherware (N.E.I.) absorbed additional labour at one time of the year amounting to 122 workers, including 64 males and 58 females. The total increase in the number of workers listed represented 20·96 on the number of hands permanently employed, or 15·50 per cent. on the males and 20·96 per cent. on the females. There was but one order arranged under this class, and it treated of leather belting, *fancy leatherware*, portmanteaux and bags.

Class II.—Oils, Fats, etc. absorbed additional labour at one time of the year amounting to 93 persons, 68 of whom were males and 25 were females. The total increase in the number of workers listed represented 8·43 per cent. on the number of hands permanently employed, or 7·67 per cent. on the males and 11·63 per cent. on the females. The order (2) soap and candles accounted for 60 additional workers including 25 females; and the order (1) oil and grease for 33, all males.

Class XIV.—Jewellery, Timepieces, and Plated Ware absorbed additional labour at one time of the year amounting to 71 persons inclusive of 10 females. The total increase in the number of workers listed represented 10·32 per cent. on the number of hands permanently employed, or 9·21 on the males and 11·49 on the females. The order (2) manufacturing jewellery, etc. accounted for 58 additional workers of whom 9 were females; and the order (1) electro-plating for 13 of whom one was a female.

Class X.—Arms and Explosives absorbed additional labour at one time of the year amounting to 34 persons of whom one was a female. The total increase in the number of workers listed represented 2·74 per cent. on the number of hands permanently employed, or 2·66 per cent. on the males and 20 per cent. on the females. There was but one order arranged under this class.

Class IX.—Musical Instruments, etc. (including Sewing Machines) showed a capacity for absorbing additional labour at one time of the year amounting to 26 persons, all males. There was but one order arranged under this class, and the total increase in the number of workers listed represented 6·83 per cent. on the number of hands permanently employed, or 7·72 on the males.

Class XV.—Surgical and Other Scientific Instruments exhibited the lowest capacity among all classes of manufacturing industry to absorb additional labour. The increase in the number employed in this highly specialised craft was 8 only, all males, representing an increase of 18·15 per cent. on the number permanently employed. There is only one order under this class, and it includes the manufacture of optical appliances, *i.e.*, spectacles, etc.

A commentary as to the effects of the War upon the incidence of employment is afforded by the report of the State Labour Branch in June, 1917, which stated that 90 trade unions had furnished particulars on the condition of trade and employment, mainly with reference to the metropolitan area. Therefrom it appeared that while employment in the building trade was slack, in other trade groups it was fair, and in certain cases good. There was no employment for sailmakers, electrical trade workers, tin canister makers, milk and ice carters, pastrycooks, shipwrights, ropeworkers, wool and basil workers, cycle and motor trade workers, ironmoulders, confectioners, millers and mill employees, tobacco workers, brushmakers, saddlers, and railway and tramway employees.

Trades reporting acute unemployment were wire-netting workers, plasterers, bricklayers, cold storage employees, marble and slate workers, coal lumpers, rockchoppers, gas employees, bridge and wharf carpenters, tile-layers, builders' labourers, ship painters and dockers, wharf labourers, and municipal employees.

The boot trade, however, reported only 1 per cent. of its members as unemployed. Felt hatters stated that trade was normal, and the clothing trades had only a few unemployed. Employment was also good in the engineering and metal trades; but slack conditions prevailed among employees in cold storage and the liquor trades. In the printing trades employment ranged from fair to normal, and among the woodworkers it was described as from fair to very good.

LEGISLATIVE REGULATION.

The only instance of a New South Wales industry springing suddenly into existence was an outcome of the financial crisis of the early forties, when the introduction of the process of boiling-down the carcasses of stock for their tallow increased the value of sheep and horned cattle by several hundred per cent.; but the manufacturing industries of the parent colony grew very gradually, keeping pace with the slowly advancing needs of the population, and it was long before attention was given to the development of the more highly organized branches.

In 1891, however, the average number of persons engaged in manufacturing had increased to 16·6 per establishment, and in 1895 the first measure of legislative regulation was initiated in New South Wales, namely, the Factories and Shops Act, 1896, which required the registration and inspection of factories and the inspection of shops, so as to secure the maximum advantage to the workers in the matter of safety to health and life.

Substantially this Act remains the law at the present day, but it has been amended by Acts passed in 1908 and 1909, by the Early Closing Acts, 1899, 1900, 1906, and 1910, and by the Saturday Half-holiday Act, 1910. The Factories and Shops Act, 1896, the Minimum Wage Act, 1908, and the Factories and Shops (Amendment) Act, 1909, have been consolidated in the Factories and Shops Act, 1912.

Any place is a factory in which four or more persons are engaged, directly or indirectly, in working at any handicraft, or in preparing or manufacturing articles for trade or sale, and includes laundries and dyeworks, but not any place in which the persons so working are members of a single family, and in which steam or other mechanical power is not used. A factory is also any place in which even one Chinaman is engaged, directly or indirectly, in working at any handicraft, or in preparing or manufacturing articles for trade or sale. The definition includes also any place in which steam or other mechanical power or appliance is used in manufacturing or packing goods for transit, or in the generation of electricity, water or other power.

Each employer is required to make returns showing the wages and piecework rates paid to all employees, whether engaged within or outside the factory, and to keep records of employees, their ages, etc. The provisions of the Act are applicable only in proclaimed factory districts.

CHILD LABOUR.

The law regulating primary education prescribes the compulsory school attendance of children until the completion of their fourteenth year, exception being made only in case of those who, prior to reaching that age, have obtained exemption certificates. The Shops and Factories Act of 1896 prohibits the employment of children under the age of 14 in any factory, unless by special permission of the Minister for Labour and Industry; but such special permission may not be given to a child under the age of 13 years. Since the 30th December, 1909, permission has not been granted, except under extreme circumstances, to any girl under the age of 14 years.

Of 5,183 juveniles engaged in manufacturing, 4,321 were employed in factories within the metropolitan area. Reviewing the statistics of juveniles since 1896, it is noticeable that in the past boys formed consistently a larger body than girls, but in 1915-16 the girls outnumbered the boys by 27. Nearly 94 per cent. of the girls employed were working in Sydney and suburbs, while a fair proportion (27 per cent.) of the boys were employed in establishments located outside the metropolitan area.

Certificates of Physical Fitness.

The employment of juveniles under the age of 16 years is conditional upon a medical certificate as to physical fitness being secured by the factory occupier under the Factories and Shops Acts.

The following table exhibits classified particulars of certificates issued during the last five years.

Year.	Metropolitan.		Newcastle.		Western.		Broken Hill.		Goulburn.		Albury.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Total.
1911	2,475	2,229	265	50	37	1	...	...	6	...	...	...	2,783	2,280	5,063
1912	2,513	2,201	248	146	30	3	14	2	4	3	6	...	2,815	2,355	5,170
1913	2,201	2,014	277	152	48	14	5	1	16	2	...	...	2,547	2,183	4,730
1914	2,287	2,114	214	131	19	6	18	...	18	1	4	2	2,560	2,254	4,814
1915	2,755	2,501	214	135	40	5	21	...	28	9	2	...	*3,106	2,650	*5,756

* Inclusive of 46 males to whom certificates were issued in districts other than those listed in the table.

Permits to Work.

The following table exhibits classified particulars of special permits to work issued during the last five years to children, between the ages of 13 and 14 years, arranged in factory districts of the State.

Year.	Metropolitan.		Newcastle.		Western.	Broken Hill.	Goulburn.	Albury.	Total.		
	Males.	Females.	Males.	Females.	Males.	Males.	Males.	Males.	Males.	Females.	Total.
1911	175	6	5	...	2	...	...	...	182	6	188
1912	147	4	3	...	3	...	...	1	154	4	158
1913	149	9	10	...	1	...	...	...	160	9	169
1914	142	8	7	...	2	...	1	...	152	8	160
1915	141	6	2	...	...	...	...	...	143	6	149

BOUNTIES ON MANUFACTURED PRODUCTS.

Under Section 51 (iii) of the Commonwealth of Australia Constitution Act, the Parliament of the Commonwealth is empowered to make laws with respect to the payment of bounties on the production or export of goods, provision being made that such bounties shall be uniform throughout the Commonwealth. The enactments made in this connection include: Sugar Bounty Acts, 1903-12, Bounties Act, 1907-12, Manufactures Encouragement Act, 1908-15, the Iron Bounty Act, 1915, the Shale Oils Bounties Act, 1910-12, and the Wood Pulp and Rock Phosphate Bounties Act, 1912.

Particulars regarding the bounties on sugar and agricultural products will be found in the chapter relating to Agriculture. For manufactured products the following have been provided:—

Item.	Period.	Rate of Bounty.
Under Bounties Act, 1907-12:—		
Fish, preserved	for 10 years from 1st July, 1907	½d per lb.
Cigar leaf	for 10 years from 1st July, 1907	2d. per lb.
Combed wool or tops, exported	for 2 years from 1st July, 1914	1d. per lb. for first 1,000,000 lb. made by any one manufacturer; ¾d. per lb. in excess of 1,000,000 lb. made by any one manufacturer.
Manufactures Encouragement Act, 1908-14:—		
Pig iron	from 1st Jan., 1909, to 30th June, 1915	12s. per ton.
Puddled bar iron		
Steel		
Galvanised sheet or plate iron or steel	from 1st Jan. 1909, to 30th June, 1914	10 per cent. on value.
Wire netting (not being prison-made)		
Wire		
Iron and steel tubes or pipes (except riveted or cast) not more than 6in. internal diameter.		

Item.	Period.	Rate of Bounty.
Iron Bounty Act, 1914 :—		
Pig iron made from Australian ore	from 1st July, 1914, to 31st December, 1915 ...	Ss. per ton.
Wood Pulp and Rock Phosphate Bounties Act, 1912 :—		
Wood pulp	for 5 years from 1st Jan., 1913	15 per cent. on market value.
Rock phosphates (manufactured into marketable phosphatic manure) ...	for 5 years from 1st Jan., 1913	10 per cent. on market value.

The provisions of the Manufactures Encouragement Act (1908-14) were repealed by the Iron Bounty Act (1914); the Shale Oils Bounties Act (1910-12) lapsed on the 30th June, 1913; and no payments were made under the Wood Pulp and Rock Phosphate Bounties Act (1912).

Bounties are payable only on articles manufactured in Australia from Australian products, with the exception of wire-netting, on which bounty may be paid also if made from wire manufactured in the United Kingdom. The amounts paid in New South Wales during the financial years 1910-16, in respect of the bounties on manufactured products were as follow :—

Product.	1910.	1911.	1912.	1913.	1914.	1915.	1916.
	£	£	£	£	£	£	£
Combed wool or tops, exported.	4,933	8,522	16,398	13,061	12,706	7,727	1,049
Pig iron	23,510	20,462	15,611	16,949	40,121	31,813*	17,213
Puddled bar iron	1,254	2,080	671	38	..	..	..
Steel	1,491	1,939	723	..	7,136	..	..
Galvanised sheet iron.. ..	287	122	74	..	..	..	..
Wire-netting	6,036	4,824	5,968	1,110	4,554	..	..
Kerosene .. .. .	..	920	2,629	2,792	152	..	..
Refined paraffin wax .. ..	..	553	739	967	176	..	..
Cigar Leaf ... .. .	..	..	..	..	..	36	16

* Including £19,808 under Iron Bounty Act.

FOOD AND PRICES.

In the portions of this Year Book dealing with primary and manufacturing production, sufficient evidence is adduced regarding various industries to show to what extent the State is independent of external sources of supply; but as the community is yet in an early stage of development, the raw materials form a much larger proportion of production than the manufactures which usually accompany a more advanced social development.

For purposes of review, a summary is given at the end of this chapter of the value of production from local industries; and the extent to which food products are imported from oversea countries may be seen by reference to the section in this volume relating to Commerce.

FOOD CONSUMPTION.

With the cessation, on the 13th September, 1910, of the system of keeping records of interstate trade, it became impossible to determine accurately the extent and value of commodities consumed, or, in some cases, produced locally. Consequently, tables which had been published previously were discontinued, and the latest figures, as shown in the 1914 issue of this Year Book, related to the period 1907-09. In view of the special interest attached to the question of food consumption, particularly in relation to the cost of living, State control of supplies and regulation of prices, efforts have been made, with considerable success, to obtain information to enable estimates of consumption to be given again.

The results have been compiled carefully, and in spite of the absence of official records of interstate trade, they are published with a large degree of confidence as indicative of the consumption of the more important articles of diet.

The estimates for 1915-16 are shown in the following table, in comparison with those for the period 1907-09 :—

Commodity.	Unit.	Consumption per head.		Commodity.	Unit.	Consumption per head.	
		1907-09.	1915-16.			1907-09.	1915-16.
Meat—Beef ...	lb.	141·8	98·7	Flour ...	lb.	228·4	243·6
Mutton ...	lb.	96·5	73·1	Bread ...	2-lb.	102·0	96·0
Pork ...	lb.	3·2	2·0		loaves		
Bacon and Ham	lb.	7·9	8·0	Rice ...	lb.	8·2	8·6
				Sago and Tapioca	lb.	2·0	2·0
Total Meat	lb.	249·4	181·8	Oatmeal ...	lb.	7·6	6·0
				Sugar ...	lb.	103·8	105·1
Fish—Fresh and	lb.	6·4	11·1	Salt ...	lb.	38·5	39·3
Smoked				Jam ...	lb.	16·7	17·2
Preserved ...	lb.	4·3	5·3	Butter ...	lb.	26·1	30·5
				Cheese ...	lb.	3·5	3·5
Total Fish	lb.	10·7	16·4	Milk—Fresh ...	gal.	17·4	19·5
				Preserved ...	lb.	4·4	5·9
Potatoes ...	lb.	181·0	149·3	Tea ...	lb.	7·3	7·7
				Coffee ...	oz.	11·0	13·7

In the preceding table may be seen a marked decline in some leading articles of diet; and that decline is not apparently accompanied by a corresponding increase in other articles, from which might be inferred either a lowering of the standard of living, or an elimination of waste, and an adjustment of a

dietary regime to human requirements. There is little doubt that the great cheapness of meat caused a wasteful consumption, and much of it taken for individual use was practically thrown away. Singularly enough, however, the table shows also a decline in the consumption of bread, and as meat is rich in proteids (tissue formers), and moderately supplied with fat, while bread is largely the source of the supply of the necessary carbohydrates (work and heat producers) in a bread-and-meat diet, a correlative decline in the consumption of both bread and meat points to a more economic dietary, subject to certain modifications which will presently be considered.

During the interval between the periods 1909 and 1916 the consumption per head of meat declined by 67·6 lb., and of the varieties affected the decrease was greatest in the use of beef, in which the difference amounted to 43·1 lb., mutton coming next with a decrease of 23·4 lb., while the falling-off in the consumption of pork amounted to only 1·2 lb. There was during the period an increase of 5·7 lb. per head in the consumption of fish, to which the quantity preserved contributed only 1 lb. per head, the remainder used as food being either fresh or smoked. The decline in the consumption of meat, has apparently not found a counter-balancing increase in the consumption of fish, which is an inferior food in every respect, if considered from the view-point of weight for weight. It is, however, very probable that a growing consumption of rabbits has partially replaced the decline in the consumption of meat. During the year 1915-16 the local consumption of this type of food was doubtless as great as for the whole period represented by the years 1907, 1908, and 1909; and there is no question that the meat shortage occasioned by the drought of 1914-15 was greatly mitigated in its effects by the supply and local consumption of rabbits, which was estimated at perhaps 3 million pairs, including hares.

It is highly probable also that the diminution in the consumption of meat has been partially made good by an increased consumption of eggs. There is, however, no means of ascertaining the number of eggs used directly as food, so many being privately produced, and large quantities entering into the manufacture of cakes and pastry, besides being used in other forms of cookery.

There was an increase per head in the consumption of flour, amounting to 15·2 lb.; but this was more than counterbalanced by the decline of the following carbohydrate foods:—Potatoes 31·7 lb. per head, bread 12 lb., and oatmeal 1·6 lb.; though the consumption of rice increased by 0·4 lb., whilst that of sago and tapioca was undisturbed as regards per capita consumption.

There was a decline of 1·6 lb. per head in the consumption of oatmeal, perhaps the most nutritious of all cereals. Probably a certain proportion of this decline in the use of oatmeal was compensated by an increased consumption of so-called breakfast foods.

The consumption of sugar has increased by 1·3 lb. per head, though a corresponding increase of $\frac{1}{2}$ lb. per head in the consumption of jam indicates that a certain proportion must have been used in the conservation of the latter, as well as in the making of biscuits and pastry, the production of beer, etc. Refined sugar is classed as a practically pure carbohydrate, and its food value is very high. Jam is used as a substitute for butter to some extent, and is dependent on its sugar contents for its measure of efficiency in this respect. In this connection it is interesting to note that the increase in the consumption of butter amounted to 4·4 lb. per head. Preserved milk increased by 1·5 lb. per head, and fresh milk by 2·1 gallons per head. There was no increase in the consumption of cheese. The increase per head in the consumption of tea amounted to 0·4 lb., and of coffee to 2·7 oz. Salt increased in consumption per head by 0·8 lb., due in all probability to its extended use as a preservative in curing bacon, preserving meat, etc.

The foregoing facts, relative to the consumption per head of specific articles of food in 1909 and in 1916, appear to be the result of a more economic dietary at the present time than that which obtained seven years ago. But it must be remembered that the constitution of the community in 1909 and 1916 was not analagous. There has been a withdrawal of young men of the beef-and-bread-eating ages amounting—roughly speaking—to 100,000. There has never before been such a levy upon the youth of the State. This remarkable withdrawal of young and vigorous manhood was reflected in the falling-off in consumption of the virile foods, rich in proteid and carbohydrate; and this has been accompanied by an increase in the consumption of the conservative foods, such as butter, jam and milk, and of the stimulative and energy-sparing beverage of tea. The increases are along the lines of those classes of nutriment affected by women and children, as contrasted with the decreases along the lines of nutriment proper to young men engaged in callings which make large demands upon the expenditure of muscular energy. In other words, the incidence of the war has disturbed the balance per capita of general consumption by altering the relative constitution of the population. But even if every allowance be made for a consideration of this aspect of the question, a decline in the standard of dietary is also evident—a decline largely brought about by protracted conditions of drought, which reduced the flocks of the State within a few years from 60,000,000 to 26,000,000 sheep. Since the days of wasteful profusion the price of meat has advanced 200 and 300 per cent., and this has inevitably brought about a decrease in the demand for meat.

Meat.

The quantity consumed is very large, though it has declined since 1909 from 249·4 lb. per head to 181·8 lb., or by 27 per cent. The decrease, which has been general for all kinds of meat, was greatest during the last two years, and reference to a subsequent table shows that it has synchronised with a steep rise in the price-levels. Approximately, one-third of the meat is bone and waste; though there is reason to believe that there is a marked difference between what might be designated as essential waste and the waste which is incidental to cheapness and profusion.

The following statement shows the average annual consumption per head of the various kinds of meat in each year since 1910:—

Year.	Beef.	Veal.	Mutton.	Lamb.	Pork.	Bacon and Ham.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1910	142·2	3·1	90·7	9·3	5·9	9·1	260·3
1911	147·6	3·3	91·9	9·4	5·0	10·7	267·9
1912	161·0	4·4	82·3	8·6	6·2	11·1	273·6
1913	148·3	4·1	84·7	9·1	3·8	9·8	259·8
1914-15	118·3	3·3	71·0	7·8	3·0	9·4	212·8
1915-16	97·1	1·6	65·9	7·2	2·0	8·0	181·8

The quantity of meat consumed increased in each year from 1909 to 1912, when it reached 273·6 lb. per head; in 1913 it dropped to slightly below the level of 1910, and subsequent decreases brought it to 181·8 lb. in 1915-16, or 33·6 per cent. lower than in 1912. The consumption of beef was highest in 1912, and of mutton in 1911.

The consumption of beef rose in 1912, when the supply of sheep was lessened, owing to the unfavourable season in the sheep districts, but it

decreased by 20 per cent. in 1914-15, and by 19 per cent. in the following year. As regards mutton and lamb the most notable decrease occurred in 1914-15, when it was 16 per cent. lower than in 1913; in the succeeding year it fell again, and is now 27 per cent. below the level of 1910. Except in the year 1912 the consumption of pork declined steadily throughout the whole period. The decrease in the consumption of beef, veal, mutton, and lamb has been most marked since 1913—the year immediately preceding the declaration of war, also the year before a period of drought. The decrease in the consumption of meat has been accompanied by an advance in the quantity of fish consumed; though it is in no respect compensatory, as there was an increase of all kinds of the latter amounting only to 5·7 lb. as compared with a decline of the former amounting to 67·6 lb. The local production of fish, which constitutes the bulk of the supply, amounted in 1915-16 to 20,620,800 lb., exclusive of 12,552 dozen crayfish, 1,859 dozen crabs, 951,888 lb. of prawns, and 22,869 sacks of oysters.

The unsatisfactory condition of the fishing industry and its effect on supplies and prices are mentioned on a subsequent page. During 1915-16, the supply was augmented by 2,117,580 lb. caught by the State trawlers, and the facilities for distribution were improved by the establishment of State fish-shops.

Potatoes.

The consumption of potatoes has decreased from 181 lb. per head to 149·3 lb. during the period under review. Local production varies greatly, and is not equal to the demand, large supplies having to be imported from the neighbouring States. The average annual production during the last three years was 64,000 tons as compared with 80,800 tons during the period 1907-09.

Bread and Flour.

The average consumption of bread in 1915-16 was 96 loaves (2 lb.) per head, and of flour 243·6 lb. per head, inclusive of manufactured articles in the shape of biscuits, cakes and pastry. The flour consumed includes approximately 134,500 tons (144 lb. per head) used for bread, and 10,825 tons (12·6 lb. per head) used in biscuit factories, but the quantity used by pastrycooks is not recorded. Exclusive of the quantity used for bread, biscuits, etc., it is estimated that the average household consumption of flour by a family of five persons is about 4 lb. per week, or 42 lb. per head per annum.

The reduction in the consumption of bread from 102 loaves per head in 1907-09 to 96 in 1915-16, a reduction equivalent to 12 lb. of bread or 6 per cent. per annum, is a matter for attention. In this connection it is interesting to record the opinion of those in the trade, who consider that the introduction of day-baking in the middle of 1914 reduced the consumption of bread by about 10 per cent., as a result of a comparative staleness of the loaf baked the day preceding delivery. Bread now is delivered generally from eighteen to twenty-four hours after baking, and after that interval is less appetising than when eaten hot, as was usually the custom prior to day-baking. A good loaf, as to volume, consists three-fifths of gas, and of the solid part about 40 per cent. by weight consists of water. A loaf of bread twelve hours old is said to lose about an ounce and a half in weight, due to evaporation of water; and it takes seventy-two hours to reduce its weight by 15 per cent.

Oatmeal, Rice, and Sago.

The consumption of oatmeal has declined from 7·6 lb. to 6 lb. per head, probably on account of an increased consumption of other breakfast foods. The consumption of rice, sago, and tapioca shows slight alteration.

Sugar.

The quantity of sugar consumed—105·1 lb. per head—appears high, but it includes large quantities used in the production of other foods, such as jam, biscuits, confectionery, beer, &c. The records of the manufacturing industry in 1915–16 show that 8,485 tons of sugar (10·2 lb. per head) were used for jam and canned fruit, 2,101 tons (2·5 lb. per head) for biscuits, and 5,223 tons (6·3 per head) in breweries, but the quantity used in other factories is not available. The average household consumption of sugar is estimated at 6 lb. per week for a family of five persons, or 62 lb. per head per annum.

Salt.

Salt is an ingredient of almost all foods, large quantities being used in bacon-curing and meat-preserving, as well as in the preparation of bread, butter, cheese, &c. The average annual consumption amounts to 39·3 lb. per head. Ordinary domestic consumption in a family of five persons probably does not exceed 1 lb. per week.

Butter, Cheese, and Milk.

Butter is an important item of food in New South Wales, and the consumption has increased from 26 lb. per head in 1909 to 30½ lb. in 1916. During the last three years the production of butter in New South Wales exceeded, on the average, 70,000,000 lb. per annum, which was more than sufficient to supply the local demand, and large quantities were exported.

The quantity of cheese consumed has not varied, but the quantity of milk has increased for 17·4 gallons to 19·5 gallons per head.

Tea and Coffee.

Tea enters largely into consumption amongst all classes, the average annual consumption being 7·7 lb. per head. Of coffee, on the other hand, the average was only 13·7 oz. per head. There are indications, however, that the consumption of coffee is increasing.

CONSUMPTION OF INTOXICANTS.

As with other commodities, so with alcoholic beverages, the latest figures relating to local consumption published in previous issues of the Year Book related to the year 1909. To supply an approximate basis for later years, however, information has been obtained recently from spirit merchants, and the consumption for the last ten years has been estimated to be as follows :—

Year.	Aggregate Consumption of Spirits.			Per Head of Population.		
	Australian.	Foreign.	Total.	Australian.	Foreign.	Total.
	gallons.	gallons.	gallons.	gallons.	gallons.	gallons..
1906... ..	132,900	1,030,700	1,163,600	·09	·69	·78
1907... ..	224,100	1,207,200	1,431,300	·15	·79	·94
1908... ..	99,900	1,087,700	1,187,600	·07	·70	·77
1909... ..	123,800	1,171,100	1,294,900	·08	·74	·82
1910... ..	165,200	1,211,100	1,376,300	·10	·75	·85
1911... ..	194,300	1,337,800	1,532,100	·12	·80	·92
1912... ..	245,000	1,426,700	1,671,700	·14	·82	·96
1913... ..	285,600	1,449,300	1,734,900	·16	·80	·96
1914–15 ...	314,400	1,369,000	1,683,400	·17	·73	·90
1915–16 ...	335,900	1,072,900	1,458,800	·21	·57	·78

In August, 1907, a proposal to amend the tariff was introduced into the Federal Parliament, and it is probable that a quantity of spirits was withdrawn from bond in that year in anticipation of increased duties, but did not pass into actual consumption until 1908 or later. For this reason, the actual consumption was lower in 1907, and higher in 1908, than indicated by the figures in the table. The consumption of spirits, which had been increasing slowly for five or six years, declined after 1913, the decrease being in the quantity of foreign spirits consumed. Many factors have contributed to the decline, such as the restriction of imports owing to the difficulties of transport and high freights, increased prices, and earlier closing of hotels. Early closing had an effect in 1915-16, when hotels in the county of Cumberland and in places within five miles of any military training camp were closed at 8 p.m., as from 24th February, 1916, by virtue of an order of the Minister for Defence. The departure of large numbers of men for war service abroad tends also to lower the consumption by increasing the proportion of women and children who consume relatively small quantities of intoxicants.

The consumption of beer has declined also since the commencement of the war, but in a less degree than that of spirits. The quantity per head, which increased by 48 per cent. between 1906 and 1913, decreased by 8 per cent. during the last two years. Of the beer consumed, 98 per cent. is brewed in Australia :—

Year.	Quantity of Beer consumed.			Per head of population.		
	Australian.	Imported.	Total.	Australian.	Imported.	Total.
	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
1906	12,716,800	812,400	13,529,200	8·56	·55	9·11
1907	14,278,800	945,700	15,224,500	9·41	·62	10·03
1908	14,856,800	908,800	15,765,600	9·61	·59	10·20
1909	15,240,000	973,500	16,213,500	9·66	·62	10·28
1910	16,287,600	1,033,600	17,321,200	10·08	·64	10·72
1911	18,332,900	1,200,100	19,533,000	11·01	·72	11·73
1912	20,777,300	1,349,600	22,126,900	11·95	·78	12·73
1913	22,973,400	1,338,000	24,311,400	12·70	·74	13·44
1914-15	23,175,100	934,300	24,109,400	12·44	·50	12·94
1915-16	22,586,600	568,700	23,155,300	12·08	·31	12·39

The wine entering into consumption in New South Wales is chiefly the produce of Australian vineyards, but the quantity produced in the State is much less than might be expected in a country so eminently adapted for viticulture.

The quantity of Australian and foreign wines consumed during recent years is shown in the following table :—

Year.	Consumption of Wine.					
	Aggregate.			Per Inhabitant.		
	Australian.	Foreign.	Total.	Australian.	Foreign.	Total.
	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
1906	916,600	39,400	956,000	·62	·02	·64
1907	892,700	43,300	936,000	·59	·03	·62
1908	905,600	42,900	948,500	·58	·03	·61
1909	955,500	41,300	996,800	·60	·03	·63
1910	816,900	46,900	863,800	·50	·03	·53
1911	908,700	57,900	966,600	·55	·03	·58
1912	975,500	60,600	1,036,100	·56	·04	·60
1913	927,800	58,500	986,300	·51	·03	·54
1914-15	851,700	50,400	902,100	·46	·03	·49
1915-16	767,200	32,800	800,000	·41	·02	·43

The decrease in the consumption of Australian wine reflects a steady decline in the production, the average annual production in New South Wales in the three years ended June, 1916, being only 565,000 gallons, as compared with 885,000 gallons in the period 1907-09.

The amount of money expended on intoxicating liquors in New South Wales in the year ended 30th June, 1916, was estimated at £7,246,000, or £3 17s. 6d. per head. There was a steady increase between 1908 and 1914-15, but during the last year of the period reviewed in the following table the drink bill decreased by £69,000, or 1s. per head of population :—

Year.	Drink Bill.		Year.	Drink Bill.	
	Total.	Per head of Population.		Total.	Per head of Population.
	£	£ s. d.		£	£ s. d.
1906	4,569,000	3 9 0	1911	5,962,000	3 11 8
1907	5,064,000	3 6 9	1912	6,592,000	3 15 10
1908	4,778,000	3 1 10	1913	7,001,000	3 17 5
1909	5,050,000	3 4 0	1914-15	7,315,000	3 18 6
1910	5,304,000	3 5 8	1915-16	7,246,000	3 17 6

CONSUMPTION OF TOBACCO.

The amount of tobacco consumed in New South Wales, as estimated, in each year since 1906, is shown in the following statement. Special data were obtained for estimates subsequent to 1909—the latest figures published in previous issues of this Year Book :—

Year.	Total Consumption (000 omitted).				Per Head of Population.			
	Tobacco.	Cigars.	Cigarettes.	Total.	Tobacco.	Cigars.	Cigarettes.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1906	3,603	203	559	4,365	2·43	·13	·38	2·94
1907	3,608	220	622	4,450	2·38	·14	·41	2·93
1908	3,748	245	690	4,683	2·42	·16	·45	3·03
1909	3,724	223	720	4,667	2·36	·14	·46	2·96
1910	3,707	239	873	4,819	2·29	·15	·54	2·98
1911	3,827	271	1,076	5,174	2·30	·16	·65	3·11
1912	3,796	293	1,353	5,442	2·18	·17	·78	3·13
1913	3,853	306	1,413	5,572	2·13	·17	·78	3·08
1914-15	3,921	296	1,391	5,608	2·10	·16	·75	3·01
1915-16	3,979	236	1,331	5,546	2·13	·13	·71	2·97

The quantity of tobacco (including cigars and cigarettes) consumed in 1915-16 was 5,545,700 lb., which represents an average of 2·97 lb. per head of population. The average has remained fairly constant throughout the period reviewed, the lowest being 2·93 lb. in 1907, and the highest 3·13 lb. in 1912. The decrease in the last two years may be attributed to the decreasing proportion of men in the general population owing to the war.

As regards the description of tobacco used, an unsatisfactory feature is the increasing consumption of cigarettes; during the period under review the proportion of cigarettes consumed advanced from 13 to 24 per cent., and the proportion of ordinary tobacco declined from 83 to 72 per cent.

Of the total tobacco consumed in 1915-16, about 90 per cent. was manufactured in Australia, the proportions of the different descriptions being

ordinary tobacco and cigarettes about 91 per cent. made in Australia, and cigars 63 per cent. The proportion of tobacco and cigarettes made in Australia has not changed greatly since 1906, when the percentages were 87 and 93 respectively, but a marked decrease occurred in the quantity of imported cigars during 1915-16, and from 1906 the proportion of Australian manufacture increased from 43 to 63 per cent.

The following statement shows the quantity of Australian and of imported tobacco consumed in 1906 and in 1915-16 :—

Description.	Total Consumption.			Per Head of Population.		
	Australian.	Imported.	Total.	Australian.	Imported.	Total.
Tobacco ... {	lb.	lb.	lb.	lb.	lb.	lb.
	1906 3,128,300	474,700	3,603,000	2·11	·32	2·43
1915-16 {	3,607,700	371,400	3,979,100	1·93	·20	2·13
Cigars ... {	90,100	112,700	202,800	·06	·07	·13
	1915-16 149,100	86,300	235,400	·08	·05	·13
Cigarettes ... {	519,300	39,500	558,800	·35	·03	·38
	1915-16 1,214,600	116,600	1,331,200	·65	·06	·71
Total ... {	3,737,700	626,900	4,364,600	2·52	·42	2·94
	1915-16 4,971,400	574,300	5,545,700	2·66	·31	2·97

Although the tobacco is called "Australian," the bulk of it is made from imported leaf, as only about 14 per cent. is made from leaf grown in Australia.

MEAT SUPPLY.

In the chapter relating to the Pastoral Industry particulars are supplied regarding the production of live stock and the number of stock slaughtered for the meat supply.

The subdivision of large estates and the encroachment of agricultural settlement on large areas used previously for stock-raising have an important relation to the meat supply, tending to encourage the breeding of sheep for mutton instead of wool, and the substitution of crossbred sheep for the smaller merino. These conditions have an opposite tendency in the case of cattle; cattle for beef thrive best on large, sparsely-populated areas, and if land is suitable for sheep, it is not profitable to use it for cattle-raising. As a result, cattle-breeding is becoming restricted to the coastal belt, and in that division the cattle are of the dairying strain and not so suitable for beef as the classes which are being displaced.

Another influence operating to restrict supplies of the best classes of cattle is the opening up of new outlets for Queensland fat cattle which used to be sent directly to the Sydney market from the south-western portions of that State. The cattle latterly imported from Queensland were "stores" and required to be fattened for six or nine months, which increased the cost of placing them on the local market; but during the last two years no cattle have been received from Queensland.

A fact of considerable economic importance in connection with the supply of meat for local consumption and the price of meat is that a much higher number of animals is required now to produce a given quantity of meat than was the case fifteen years ago. This is attributable partly to a decrease in the average size and weight of cattle slaughtered, and partly to the preference for choice cuts fostered by the prosperity of the period prior to the war.

The following statement shows the estimated number of live stock (cattle, sheep, and pigs) slaughtered for the meat consumed in New South Wales in each year since 1910. These figures differ from those published elsewhere in this volume showing the animals killed in slaughtering establishments, as they are exclusive of animals slaughtered for export, treated in boiling-down works, and condemned at abattoirs. Moreover the number of pigs includes those slaughtered for the production of bacon imported for consumption, as New South Wales does not produce enough bacon for its requirements:—

Year.	Bullocks.	Cows.	Calves.	Sheep and Lambs.	Pigs.
1910	227,691	153,206	50,238	3,894,589	315,786
1911	233,141	179,122	54,493	4,068,349	335,403
1912	266,656	202,596	74,599	3,991,784	383,869
1913	232,796	230,041	70,919	3,896,880	309,976
1914-15	156,886	246,659	59,350	3,521,883	289,224
1915-16	167,870	163,278	30,296	3,358,469	234,633

METROPOLITAN MEAT INDUSTRY BOARD.

The Meat Industry Act, 1915, which came into force on 1st March, 1916 created the Metropolitan Abattoir Area (comprising the county of Cumberland), and placed all operations in connection with the sale, slaughter, and inspection of cattle, and with the sale of meat in that area, under the control of a Board of three members, known as the Metropolitan Meat Industry Board.

Under the provisions of the Act the Board may—

- (1) Establish, maintain, and conduct abattoirs, or saleyards for the sale of cattle, or markets for the sale of meat, in any part of the Metropolitan Abattoir Area.
- (2) Establish, maintain, and conduct works for canning, preserving, chilling, or freezing meat.
- (3) Take delivery of cattle, and slaughter the same, either on its own behalf or on behalf of any other person.
- (4) Purchase cattle or meat.
- (5) Sell cattle or meat, either on its own behalf or on behalf of any other person.
- (6) Export meat on behalf of any person, and sell the same in any place on behalf of such person, and enter into all contracts and do all things that may be necessary or expedient in that connection.
- (7) Deliver or contract to deliver to any person any meat, either from a public abattoir, meat market, or from any other place.
- (8) Make arrangements with regard to the purchase, collection, and disposal of offal or other matter, and apply any manufacturing process thereto, and convert it into a merchantable article and sell the same.

The Act vests in the Board the land and buildings contained in the Public Abattoir at Glebe Island, the Stock Saleyards at Flemington, the new Public Abattoir at Homebush Bay, and the Meat Distributing Depot at Pyrmont.

The new Public Abattoir at Homebush Bay was opened officially in April, 1915, when advantage was taken of an offer by a leading firm of exporters to slaughter export mutton for Imperial army requirements. Owing to the shortage of supplies and the consequent stoppage of export, operations were discontinued on 22nd May, 1915.

On 1st July, 1916, the Abattoir was again brought into operation, when the slaughter of cattle, calves, and pigs was transferred from Glebe Island. The slaughter of sheep is conducted mainly at Glebe Island Abattoir, only those from neighbouring districts being treated at Homebush Bay.

The following table shows the slaughtering at the State Abattoir and Meat Works, Homebush Bay, and at the Sydney Abattoir, Glebe Island, during each month of the year 1916-17.

Year.	Cattle.	Sheep.		Pigs.	Calves.
		Homebush Bay.	Glebe Island.		
1916—					
July	107	224	77,606	3,836	2,830
August	6,993	7,483	89,475	6,708	3,309
September ...	7,415	6,225	97,144	6,162	3,470
October	7,477	9,490	184,800	5,434	3,153
November ...	7,826	19,756	142,351	6,279	3,469
December ...	7,051	14,318	67,394	6,485	1,819
1917—					
January	8,285	14,431	78,867	4,689	1,867
February	7,428	11,858	52,340	4,932	1,236
March	8,754	13,799	55,742	6,147	1,767
April	9,857	15,132	78,544	6,020	2,016
May	12,813	19,089	124,994	7,752	2,917
June	10,587	14,322	80,662	7,001	2,254
Total for year...	94,593	146,127	1,129,919	71,445	30,110

The cattle saleyards at Flemington, covering an area of 66 acres, and capable of accommodating on one day from 75,000 to 80,000 head of sheep and lambs and 2,500 head of cattle, are controlled by the Metropolitan Meat Industry Board.

Auction sales are held twice each week, and pens are allotted for consignments of stock arriving. Sales are held in rotation, and are limited in time—according to the number of consignments, the dues charged being at the rate of 1d. per head for sheep, and 6d. for cattle.

The following table shows the number of stock yarded annually at the Flemington Cattle Saleyards :—

Year.	Sheep.	Cattle.	Year.	Sheep.	Cattle.
1908	3,104,025	117,496	1913*	2,721,356	265,126
1909	3,810,445	132,050	1914*	2,805,207	276,440
1910	4,064,650	155,833	1915*	3,381,937	255,876
1911	3,407,835	103,953	1916*	2,317,602	158,453
1912*	3,648,138	211,705	1917*	1,711,246	149,604

* Year ended 30th June.

The new Pig and Calf Saleyards and Markets were opened on 2nd July, 1916, and superseded the Sydney Municipal Small Stock Markets in Sussex-street. These markets are provided with ample railway siding accommodation, and with every facility for the conduct of the business.

The monthly yardings during 1916-17 are shown hereunder :—

Months.	Pigs.	Calves.	Months.	Pigs.	Calves.
1916.			1917.		
July ...	4,341	1,846	January ...	4,481	1,331
August ...	5,952	2,204	February ...	3,714	720
September ...	4,975	2,054	March ...	5,163	920
October ...	5,297	1,872	April ...	4,515	1,081
November ...	4,501	2,351	May ...	6,901	1,468
December ...	4,454	1,246	June ...	5,140	1,340
			Total ...	59,434	18,433

The Meat Distributing Depot is situated on the main Darling Harbour railway line, and is intended as a temporary distributing depot for the city meat supply, pending the provision of more extensive accommodation elsewhere.

The new saleyards are in course of construction in the vicinity of the new Abattoir area, and will supersede the present Stock Saleyards at Flemington. The plans provide for 70,000 sheep and from 5,000 to 6,000 cattle. A separate railway service will be provided to meet the requirements of these yards; they are well advanced, and will probably be completed before the end of 1917.

Prices of Live Stock.

The governing factor in the price of meat is the price paid for live stock at Flemington. The following statement shows the movement of the prices of fat stock during the years 1905 to 1916. Accurate quotations for lambs

in 1916 are not available, as they were sold in most cases with the grown sheep, owing to the abnormal conditions and limited supply :—

Stock.	1905.	1910.	1913.	1914.	1915.	1916.
Sheep.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Cross-breds—						
Extra prime wethers	19 7	17 9	20 3	23 10	31 0	42 3
Prime wethers ..	17 1	14 9	18 0	20 6	26 3	36 9
Good „ ...	15 9	11 9	14 9	17 2	20 0	30 0
Medium „ ...	14 9	8 6	11 3	14 2	15 3	25 6
Extra prime ewes ...	18 8	15 9	17 3	21 10	28 0	35 3
Prime ewes ...	16 7	14 6	15 3	19 7	23 9	31 9
Good „ ...	15 6	10 0	12 6	16 6	18 7	25 3
Medium ewes ...	13 10	7 3	9 6	13 3	14 5	20 0
Merinos—						
Extra prime wethers	19 6	18 6	21 3	22 9	28 0	38 3
Prime wethers ..	17 0	15 3	18 6	19 5	24 3	33 6
Good „ ...	15 9	11 9	14 9	16 0	18 9	28 3
Medium „ ...	13 8	8 0	11 6	12 7	13 6	25 0
Extra prime ewes ...	15 11	14 3	19 3	19 3	24 9	32 0
Prime ewes ...	13 4	12 0	16 6	17 3	20 7	28 9
Good „ ...	12 4	9 9	13 6	14 3	16 2	24 3
Medium ewes ...	10 10	6 6	10 6	11 2	12 0	19 9
Lambs—						
Extra prime woolly...	16 5	14 3	18 0	18 3	22 0	...
Prime woolly ...	14 10	11 3	15 3	15 11	18 10	...
Good „ ...	13 4	8 3	11 9	13 0	14 10	...
Medium „ ...	10 11	5 0	8 3	9 9	10 7	...
Cattle.						
Bullocks—	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Extra prime ...	11 8	10 11	12 7	14 11	24 15	25 0
Best ...	9 15	8 15	10 18	13 3	21 18	21 4
Good trade beef ...	8 18	7 12	9 2	11 9	18 13	19 19
Medium ...	7 18	5 0	7 5	9 7	16 13	17 0
Cows—						
Extra prime ...	8 11	7 7	8 4	10 3	15 18	17 15
Best ...	7 9	5 15	6 9	8 17	13 5	14 16
Good trade beef ...	6 14	4 9	5 9	6 18	10 9	11 14
Medium ...	5 18	3 3	3 13	5 0	7 14	9 4
Meat.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Best beef, per 100 lb.	22 11	22 3	25 9	32 3	53 10	58 4

Apart from fluctuations, due to weather conditions, such as drought, which affected the prices of the period 1902-4, the prices of fat stock varied little from 1900 to the middle of 1912. The general level in 1911 was about the same as in 1900; in 1912 and 1913 the dry weather in the pastoral areas was responsible for a rise in prices, and during the more favourable period which followed supplies were light, as pastoralists refrained from marketing their stock. The continued dry weather, as well as the abnormal conditions in Europe, caused prices to rise in 1914; and the upward tendency was maintained until August, 1915, when the market became gradually easier, although extremely high prices were still ruling at the end of the year.

In 1916, the prices were considerably above the level of the previous year, as supplies of stock for slaughtering were scarce, owing to the great demand for re-stocking which set in as a result of a favourable season, and of high values of wool.

The movement of wholesale prices since 1901 is illustrated below. The prices, compiled from returns published in the *Australian Meat Trades' Journal*, represent the highest and lowest in each year, the range covering "firsts" and "seconds" in the case of mutton, and "hinds" and "fores" in the case of beef :—

Year.	Mutton.		Beef.		Year.	Mutton.		Beef.	
	per lb.		per lb.			per lb.		per lb.	
	d.	d.	d.	d		d.	d.	d.	d.
1901	$7\frac{7}{8}$	to $2\frac{1}{4}$	2	to $3\frac{1}{4}$	1909	$1\frac{1}{4}$	to $2\frac{3}{4}$	$1\frac{1}{4}$	to $3\frac{1}{4}$
1902	$1\frac{1}{8}$	" $5\frac{1}{2}$	2	" 7	1910	$1\frac{1}{4}$	" $2\frac{1}{4}$	$1\frac{1}{4}$	" $3\frac{1}{4}$
1903	$2\frac{1}{2}$	" $3\frac{1}{2}$	$2\frac{1}{4}$	" 5	1911	$1\frac{1}{8}$	" $2\frac{3}{4}$	$1\frac{1}{4}$	" 3
1904	$2\frac{1}{8}$	" $3\frac{1}{2}$	$1\frac{1}{8}$	" $3\frac{1}{8}$	1912	2	" $4\frac{1}{4}$	$1\frac{1}{8}$	" 5
1905	$1\frac{1}{8}$	" 3	$1\frac{1}{2}$	" $3\frac{3}{8}$	1913	2	" $3\frac{1}{4}$	$1\frac{1}{4}$	" $3\frac{3}{4}$
1906	$1\frac{1}{8}$	" $2\frac{1}{2}$	$1\frac{1}{8}$	" $3\frac{1}{2}$	1914	$2\frac{1}{4}$	" $4\frac{1}{8}$	2	" $4\frac{1}{2}$
1907	$1\frac{7}{8}$	" 3	$1\frac{1}{8}$	" $3\frac{3}{4}$	1915	$2\frac{1}{2}$	" $7\frac{1}{4}$	3	" $9\frac{1}{4}$
1908	$1\frac{1}{8}$	" $3\frac{1}{2}$	$1\frac{1}{2}$	" $3\frac{3}{8}$	1916	$4\frac{1}{8}$	" $7\frac{1}{2}$	4	" $8\frac{1}{2}$

The retail prices reflect the movements of the wholesale. The following statement shows the average retail prices charged by cash butchers in Sydney; if delivered, an additional charge, ranging from $\frac{1}{2}$ d. to 1 d. per lb. was made, but during 1916 very little delivery was done :—

Year.	Sirloin Roast.		Rump Steak.		Leg of Mutton.		Shoulder of Mutton.		Loin Chops.	
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
1901	4	to 5	6	to 7	$2\frac{1}{2}$	to 3	$1\frac{1}{2}$	to 2	$3\frac{1}{2}$	to 4
1902	4	" 5	6	" 7	$2\frac{1}{2}$	" 5	$1\frac{1}{2}$	" 2	$3\frac{1}{2}$	" 4
1903	4	" 5	6	" 7	$2\frac{1}{2}$	" 3	$1\frac{1}{2}$	" 2	$3\frac{1}{2}$	" 4
1904	4	" 5	6	" 7	$2\frac{1}{2}$	" 3	$1\frac{1}{2}$	" 2	$3\frac{1}{2}$	" 4
1905	4	" 5	6	" 7	$2\frac{1}{2}$	" 3	$1\frac{1}{2}$	" 2	$3\frac{1}{2}$	" 4
1906	4	" 5	6	" 7	$2\frac{1}{2}$	" 3	$1\frac{1}{2}$	" 2	$3\frac{1}{2}$	" 4
1907	$4\frac{1}{2}$	" 5	6	" 7	3d.		$1\frac{3}{4}$	" 2	4d.	
1908	$4\frac{1}{2}$	" 5	$5\frac{1}{2}$	" 7	3d.		$1\frac{1}{4}$	" 2	4d.	
1909	4	" 5	6	" 7	$2\frac{1}{2}$	to 3	$1\frac{1}{2}$	" 2	3	to 4
1910	4	" 5	6	" 7	$2\frac{1}{2}$	" 3	$1\frac{1}{2}$	" 2	3	" 4
1911	$4\frac{1}{2}$	" 5	$6\frac{1}{2}$	" 7	$2\frac{1}{2}$	" 3	$1\frac{3}{4}$	" $2\frac{1}{2}$	$3\frac{1}{2}$	" 4
1912	$4\frac{1}{2}$	" $5\frac{1}{2}$	$6\frac{1}{2}$	" $7\frac{1}{2}$	3	" $3\frac{1}{2}$	$2\frac{1}{4}$	" 3	4	" 5
1913	$4\frac{1}{2}$	" $5\frac{1}{2}$	7	" $8\frac{1}{2}$	$3\frac{1}{2}$	" 4	3	" $3\frac{1}{2}$	$4\frac{1}{2}$	" 5
1914	$5\frac{1}{2}$	" 6	8	" 9	$4\frac{1}{2}$ d.		$3\frac{1}{2}$	" 4	$5\frac{1}{2}$	" $6\frac{1}{2}$
1915	$7\frac{1}{2}$	" $12\frac{1}{2}$	$9\frac{1}{2}$	" $16\frac{1}{2}$	5	to 8	4	" $7\frac{1}{2}$	$6\frac{1}{2}$	" 9
1916	$10\frac{1}{2}$	" $11\frac{1}{2}$	13	" $14\frac{1}{2}$	$6\frac{1}{2}$	" $8\frac{1}{2}$	$5\frac{1}{2}$	" $7\frac{1}{2}$	8	" $9\frac{1}{2}$

Meat Export Trade.

The maintenance and extension of the export trade, apart from its economic value to the State generally in providing a remunerative outlet for surplus stock, benefits the local meat market by encouraging the breeding of a class of sheep more suitable for mutton than the merino, and tends to lessen the expense of slaughtering and handling, by enabling the buyer for local consumption to handle larger numbers.

The export trade has little effect on the local trade in beef; in mutton it exercises a direct influence on local prices by preventing them from falling below the level of London parity. As a general rule prices of Australian mutton abroad are, quality for quality, higher than local prices.

Since the outbreak of war, permits for the export of meat must be obtained from the Collector of Customs, Sydney.

Meat Supply for Imperial Uses Act.

In February, 1915, the Imperial Government made a request for the co-operation of the New South Wales Government in securing the whole of the Australian supply of beef and mutton available for export during the continuance of the war, the object being to obtain supplies for the armies of Britain and her Allies, and to prevent any excessive advance in the price of Australian meat in the United Kingdom. Consequently the Meat Supply for Imperial Uses Act was passed on 17th February, 1915, and all stock and meat in New South Wales were declared subject to the Act. Upon a written order of the Minister, all stock and meat mentioned therein become the property of the Crown, free of all mortgages and other encumbrances, and the owners are entitled to payment at prices fixed by a board appointed under the Act. Proclamations have been issued periodically, extending the period of operation of the Act to the 30th June, 1918.

The prices fixed for meat taken into cold storage as at 30th June, 1917, are indicated below. The prices are conditional upon delivery by the vendors of the meat free on board ship; no interest or charges may be claimed by the vendors for the meat until it has been 28 days in cold storage, but thereafter they may be paid interest at the rate of 6 per cent. on the value of the meat, and the storage charge will be paid by the Government:—

Mutton.	Price.	Beef.	Price.
	per lb.		per lb.
F. a. q. and g. a. q.—(3rds $\frac{1}{2}$ d. less)	d.		d.
Wether	5 $\frac{1}{2}$	Ox	4 $\frac{1}{2}$
Ewe	5	Cow	4 $\frac{3}{4}$ –4 $\frac{1}{2}$
Teg	5 $\frac{3}{4}$	Bull—hinds and crops	4 $\frac{3}{4}$
Lamb	6 $\frac{1}{2}$	Buttocks	5 $\frac{3}{4}$
Stag	4 $\frac{1}{2}$	Rumps, loins—trimmed	5 $\frac{1}{2}$
Cut Carcases	5 $\frac{3}{4}$	Forequarter ribs	5
Hindquarters	5 $\frac{1}{4}$	Chuck and blade	4
Forequarters	4 $\frac{1}{2}$	Boneless—in bags	5 $\frac{1}{4}$
Loins—trimmed	5	„ in crates	5 $\frac{1}{4}$

Up to the end of June, 1917, the quantity of meat requisitioned under the authority of the Act and shipped from Sydney was 91,165,984 lb., consisting of 1,731,994 carcases of mutton and lamb, and 115,330 quarters and pieces of beef. The meat shipped during 1916–17 consisted of 605,856 carcases of mutton and lamb, weighing 28,730,418 lb. and 9,374,063 lb. of beef, of a total value of £855,112. The Imperial Government purchased also 1,482,314 lbs. of cheese, valued at £57,094, the prices paid being first quality 9 $\frac{1}{4}$ d. per lb. and second quality 9d. per lb. The purchase and shipment of the meat and cheese are arranged by the Metropolitan Meat Industry Board, and the total cost to the Imperial Government, including storage and interest, amounted to £913,251 during 1916–17, viz.:—meat £855,820, cheese £57,108, clerical and other expenses £323.

FISH SUPPLY.

In the section relating to Fisheries it is shown that, although the sea-board waters, rivers, estuaries, and coastal lakes of New South Wales contain immense quantities of edible fish, the industry has not been developed, and consequently the position of the fish supply is far from satisfactory. Supplies are irregular and inadequate, there is no effective system of distribution, and as a result prices are high.

Communication between the inshore fishing-grounds and the Sydney market depends mainly on ocean transport, as only those between Port Macquarie on the north and Jervis Bay on the south are connected by rail. The fish are taken to the point of shipment in the fishermen's boats, then washed, packed in cases with ice, except in the case of short distances in winter, and consigned to agents in Sydney. For sea-carriage the capacity of the cases varies from 252 lbs. to 640 lbs. of fish, exclusive of ice; fish carried by rail are packed in cases of a capacity of 65 lbs. to 80 lbs. In some instances the cases are the property of the agents, who charge a small rental for their use, but the leading fishermen own sufficient for their requirements.

The packing and handling of fish have greatly improved, as smaller cases are employed for sea transit, and more finely crushed ice for packing, while the fish are generally cared for better on the steamers than formerly. Ice-works and cool storage are needed at some of the centres, though the supply is improving yearly, and shelter-sheds for fish and ice have been erected. The undesirable practice of unpacking fish on the Sydney wharves into baskets still prevails.

The quantity of fish supplied is restricted by the want of regular and frequent communication with grounds not connected with Sydney by rail, while the cost of freight by steamer from some of the more prolific grounds tends to further restrict the supply of the commoner varieties, though of late the abnormally high price of meat, and the excellent prices realised for inferior kinds of fish, have largely stimulated their shipment.

There are two fish markets in Sydney, the Municipal Fish Market and the Commonwealth Co-operative Fish Exchange, Redfern. The former is controlled by the Sydney Municipal Council, which acts as selling agent, although private agents are allowed to conduct business in the Council's building. The Co-operative Fish Exchange is owned and controlled by a private company, most of the agents operating on its premises being shareholders.

Fish is sold in the markets by agents both by auction and by private treaty; the Municipal Council sells by auction only. Inspection in the Municipal Market is made by an officer of the Council and by a Government Inspector, and in the Commonwealth Fish Exchange by a Government Inspector acting under the Pure Food Act.

The marketing charges, in addition to rail or steamer freight, are as follows:—

								per basket.
Wharfage dues	...	...	...	...	...	...	...	1d.
Cartage, wharf to market	...	...	...	...	...	...	...	6d.
Market dues—								
Municipal Market	...	...	...	...	Fish, 4d. ;	Prawns, 6d.		
Commonwealth Market...	...	...	...	...	Fish, 3d. ;	Prawns, 6d.		

Case rent—1s. per trip—is charged also by some agents, and on any fish placed in cool storage additional dues of 9d. per basket per week must be paid. The private agents charge a selling commission of 10 per cent., out of which they pay the market dues. The Municipal Council charges 5 per cent. commission, and debits the fisherman with the market dues.

The need for an effective system of general distribution of fish to private consumers is urgent. The buyers at the markets consist mainly of wholesale and retail dealers, and hotel, restaurant, and boarding-house keepers; few private consumers attend the sales.

In the nearer suburbs a few dealers maintain regular rounds for the purpose of house-to-house distribution, but the more distant suburbs are supplied only by hawkers whose visits are intermittent and uncertain.

Reliable statistics regarding the movement of prices are not obtainable but there is sufficient evidence to show that the wholesale prices of all classes of fish have increased considerably.

The main cause of the high prices is the steadily increasing demand, with which the supply has not kept pace. The increase in the demand is not due solely to growth of population, as during the period 1900-16 the quantity of fish marketed in Sydney increased by over 180 per cent. while the increase in the population was 56 per cent. The increase in the demand is attributed to the high cost of meat food, and to changes in the domestic and housing conditions of the people which have led to increased consumption in hotels and boarding-houses where fish is more regularly an item of food than in the average private household.

The crayfishing industry should experience an extensive development; because there is an increasing demand for this article of diet, the number marketed in 1916 being 126,732 as compared with 25,932 in 1901. As regards nutriment value, crayfish is equal to that of ordinary fish, but it is less digestible.

The present conditions of transport and methods of packing and handling cause considerable loss during carriage to market; to obviate this loss arrangements should be made to boil the crayfish before sending it to market, and the recommendations regarding handling and distribution of fish generally should apply to crayfish.

Oysters are marketed in sacks of 3-bushel capacity; they are culled by hand on beds in shallow water or between tide-marks, and by means of the oyster dredge or tongs in deep-water beds. Owing to the increased demand oysters are marketed at a smaller size now than they were a few years ago.

All the Sydney oyster merchants hold oyster leases, and, in addition to production from their own leases, they market oysters for other lessees. The prices paid to producers by merchants, and to the latter by retailers, are fixed by private treaty. Competition in the oyster trade has been very keen during recent years, and producers have received high prices.

As in the case of other fish, the demand for oysters is far in excess of the supply, and prices are relatively high. The output during 1916 was 23,365 bags.

Oyster culture differs from other branches of the fishery industry as to trade conditions, and is apparently more remunerative, and oyster leases form an important source of revenue to the Department of Fisheries.

There is a permanent demand for preserved fish, especially in country districts, where fresh fish is rarely obtainable; at the present time this demand is supplied wholly by importation. In local waters there are large numbers of fish eminently suitable for preserving, and a bounty of $\frac{1}{2}$ d. per lb. has been provided by the Commonwealth Government for fish preserved in Australia, in addition to the protection afforded by cost of transportation, etc., and a duty of $1\frac{1}{2}$ d. per lb. imposed on the imported article.

Fish preserving has not proved successful in New South Wales, owing partly to lack of experience of persons engaged, and partly to irregularity of supplies.

STATE TRAWLING.

During 1915 a Government trawling scheme came into active operation. Three modern steam steel trawlers, using the full-sized commercial otter-trawl net, are engaged regularly in trawling along the coast. Operations have been confined principally to an area known as the "Home," or Botany

ground, a few miles to the south of Port Jackson, and to the Eden ground in the vicinity of Eden and Green Cape, in depths ranging from 40 to 80 fathoms. The catches are landed several times a week at a central receiving *dépôt* at Woolloomooloo Bay, where there are cold storage facilities. The fish are cleaned, and distributed by light delivery cars to retail *dépôts* situated in various parts of the Metropolitan area.

There are now six State fish-shops in the Metropolitan area, and one at Newcastle, at which are offered for sale deep-sea (or tiger) flathead, leather-jacket, john dory, nannygai, morwong, boarfish, sea perch, barracouta, gurnard, skate, and ray. Fish are sold also as flake, fillets, and in various other ways, including smoked. Varieties of fish not known previously among general consumers have been placed successfully on the market.

The following prices were charged in July, 1917, in the State fish shops, the rate being at per lb., except where otherwise stated :—

<i>Fresh.</i>				<i>Smoked.</i>	
Flake	} 3d.	John Dory	} 6d.	Flake	5d.
Sawfish		Jackass Fish		Barracouta	} 7d.
Salmon		Morwong		Mullet	
Gurnard		Nannygai		Sawfish	
Barracouta		Silver Dory		Skate	
Skate	3½d.	Flathead (salt or fresh).	Kingfish	Gurnard	} 8d.
Blackfish	} 4d.	Giant Boar-fish	7d.	Trevally	
Mullet		Garfish	} 8d.	Tailor	
Spotted Rock Cod (or Thetis).		Sergeant Baker		Flathead	
Cucumber Fish		Bream		Leatherjacket	9d.
			Jewfish	Gurnard fillets	Snapper ... ..	1s.
Gurnet Perch	} 5d.	Gurnard fillets	} 9d.	<i>Sundries.</i>	
Sea Perch		Black Rock Cod (fillets 10d. lb.).		Roes (fresh), 8d.	
Tailor		Whiting		„ (smoked), 1s.	
Trevally		} 11d.	Murray Cod	Crayfish (Lobster), 1s. to 1s. 6d. each.	
Leatherjacket (salt or fresh).			Red Bream		
Short Boar-fish	Snapper				
Eels					

These prices are subject to fluctuation, but do not vary greatly; gurnard, which has come into great prominence, is frequently sold at the low rate of 2d. per lb.

The first experiment being considered successful, four additional trawlers are in course of construction at Walsh Island Dockyards, and a wooden general fishing vessel is on the stocks in Sydney Harbour. With the advent of these additional trawlers, it will be possible to map out new grounds.

In order to improve the condition of the fishing industry, whereby the fishermen obtained but a poor and precarious return for their labour, while the consumers were forced to pay high prices for a poor supply, the State has undertaken to erect a chain of coastal receiving *dépôts* north and south of Sydney, at which fishermen's catches will be received into cold storage to be distributed by rail, road, or water. In this connection a large fish-carrying vessel of special design is now being built. Many thousands of baskets of fish go to waste annually for lack of proper handling and distributing facilities, and the proposed State scheme is designed to obviate this great loss. At present, *dépôts* at Newcastle and Port Stephens are nearing completion, and the construction of others is contemplated.

When the coastal *dépôts* are in operation and the extra trawlers are in commission, the State will secure the distribution of fresh fish to many parts

of the State where it is not obtainable now, and will erect preserving works for any surplus. A plant for the manufacture of fish-meal for poultry and pig-feed, manure, oil, etc., is on hand, and will be erected in due course.

An interesting new industry established in connection with State trawling is that of net-braiding. Six women are employed as net-braiders, making trawl-nets for the State vessels, pure Manila twine of local manufacture being used.

BREAD.

The Sydney bread supply is produced by about 200 master bakers, and for the most part bread is sold by them directly to the consumers. The quality of the bread is good, and the conditions of production satisfactory.

The price of bread was fixed ordinarily by the Master Bakers' Association. About 160 of the Sydney master bakers are members of the Association, but the price was observed generally by non-members also. Until the Necessary Commodities Control Act, 1914, came into operation the price was fixed with relation to the declared price of flour, but, owing to the practice on the part of the millers of giving extended terms of delivery for flour purchases, the declared price was not always the actual price paid by the baker.

The price of flour was fixed by an association of millers, and was higher than the price obtainable for export, higher also than it would be under competitive conditions. The excess, however, was due to special conditions in the trade, and was not great enough to cause any substantial addition to the price of bread. The prices of bread, and of food products generally, are now regulated under Commonwealth supervision, as provided by war legislation.

The price of bread in Sydney, as fixed by the Master Bakers' Association at various times from 1900 to 1913, by the Necessary Commodities Control Commission from December, 1914, to March, 1916, and subsequently under Commonwealth regulation, is shown below in conjunction with the declared price of flour at the time when the price of bread was fixed:—

Date.					Price of 2 lb. Loaf.	Cost of Flour per ton.
					d.	£ s. d.
1900	...	...	...	...	2½	6 15 0
1902	April	...	...	...	2¾	8 15 0
	September	...	...	...	3	9 10 0
	November	...	...	...	3½	10 10 0
1903	February	...	...	...	3½	12 0 0
	December	...	...	...	3½	10 10 0
1904	February	...	...	...	3½	9 10 0
	September	...	...	...	3	9 0 0
1907	June	...	...	...	3½	8 15 0
	October	...	...	...	3½	10 0 0
1909	March	...	...	...	3½	10 0 0
1910	June	...	...	...	3½	8 15 0
1912	May	...	...	...	3½	9 15 0
1913	October	...	...	...	3½	8 15 0
1914	December	...	...	...	4	11 17 6
1915	July	...	...	...	5	17 5 0
	October	...	...	...	4	11 17 6
1916	March	...	...	...	*3½	11 5 0
	August	...	...	...	*3½	11 5 0
1917	June	...	...	...	*3½	11 0 0

* Price over counter; 4d. if delivered.

State Bakery.

A bakery was purchased by the State, and proclaimed a State industrial undertaking as from 12th February, 1914. The price for land, buildings, and plant was £8,200. The trading operations for the year 1914-15 resulted in a loss of £3,098.

The report for the year ended 30th June, 1916, states, however, that the business of this undertaking made great expansion during that year. The sales of the Bakery amounted to £41,810, as against £24,159 for the previous year, an increase of £17,651, or at the rate of 73 per cent.; and for the Mill (exclusive of flour purchased by the Bakery), the sales were £42,766, against £9,393 for the previous year, an increase of £33,373, at the rate of over 355 per cent. The total sales for Bakery and Mill (excluding sales to Bakery), was £84,576, showing an increase of £51,024.

The surplus profits, after providing interest and sinking fund, were £5,592, namely, Bakery, £3,016; and Mill, £2,576. The accumulated profits at 30th June, 1916, were stated as £8,690, equal to 61 per cent. of the capital, the result of trading for two years and five months. The trading expenses to sales show an increase of 6 per cent. over those of the previous year, so that, notwithstanding the large increase of business, the surplus profits were actually lower. The Defence Department contributed to large sales effected, a factor that must be taken into account as liable to fluctuation or extinction in the future trading of this undertaking. The capital was increased by £4,055, and stood at £14,227 at the 30th June, 1916.

FRUIT.

The fruit supply of Sydney is derived mainly from orchards within the State, from Victoria, Tasmania, America, Sicily, and Italy. Relatively small quantities are obtained from Queensland and South Australia, and the bulk of the banana supply comes from Fiji.

From November or December to February or March the supply is for the most part locally grown; from March to October the market for all fruits, except citrus, is supplied chiefly from Victoria and Tasmania; in October shipments arrive from America. From May to December local supplies of citrus fruits are available, though importations from America of oranges and lemons are made from October to December, and from Italy from December to March.

The following statement shows an average of the wholesale prices of various fruits in Sydney during the last three years:—

Fruit.	1914.	1915.	1916.
Apples, per bushel	7s. to 10s.	8s. to 11s.	7s. 6d. to 10s.
„ cooking, per bushel	8s. 6d.	9s.	7s.
Oranges, per bushel	9s. to 15s.	9s. to 14s.	8s. 6d. to 16s.
Mandarinus „	12s.	9s.	12s.
Pears „	13s.	12s.	12s.
Passion fruit, per $\frac{1}{2}$ bushel	8s.	8s.	7s. 6d.
Bananas, per $1\frac{1}{2}$ bushel	19s.	21s.	16s. 6d.
Pineapples „	10s.	9s.	8s. 6d.

VEGETABLES.

No details are available regarding the local production of the different kinds of vegetables, except potatoes and onions, as the figures are included under a general heading, "Market Gardens," as shown in the chapter relating to Agriculture. Large supplies of vegetables are obtained from other Australian States.

The average wholesale prices of vegetables in Sydney during 1913-16 were as follows :—

Vegetables.	1913.	1914.	1915.	1916.
Cabbages... per doz.	6s. to 7s.	5s. to 6s.	6s. to 8s.	5s. to 7s.
Cauliflowers ,,	7s. to 10s.	6s. to 8s.	6s. to 8s.	7s. to 8s.
Peas ... per bush.	6s. 3d.	5s. 6d.	6s. 6d.	7s.
Beans ... ,,	6s.	3s. to 4s.	5s. to 6s.	3s. to 4s.

Imported potatoes are sold by private treaty on the wharf shortly after arrival, and the prices are fixed by arrangement between sellers. Locally-grown potatoes are sold by auction in the railway yards.

The average wholesale prices of Tasmanian and Victorian potatoes and of onions are shown below in half-yearly periods between 1901 and 1916 :—

Year.	Potatoes.				Onions.	
	Tasmanian.		Victorian.			
	Jan.-June.	July-Dec.	Jan.-June.	July-Dec.	Jan.-June.	July-Dec.
	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1901	5 0 0	6 0 0	*	*	10 0 0	10 5 0
1906	8 0 0	8 5 0	7 0 0	7 0 0	6 12 6	7 10 0
1911	7 0 0	6 7 6	5 7 6	5 15 0	3 2 6	5 0 0
1912	9 5 0	13 5 0	7 10 0	9 0 0	12 15 0	12 15 0
1913	7 18 6	6 11 6	6 13 0	3 17 6	7 1 6	7 14 6
1914	6 9 0	7 3 0	5 4 0	*	7 17 0	10 4 0
1915	7 1 6	12 10 6	6 9 0	10 15 6	8 3 0	7 14 6
1916	11 0 0	7 10 9	8 10 0	*	4 12 3	5 9 9

*None offering.

MILK.

The milk supply of Sydney is derived partly from dairies in the metropolitan area, and partly from dairies in country districts, viz., the South Coast district between Wollongong and Nowra, the districts traversed by the Main Southern Railway between Liverpool and Moss Vale, the Penrith, Windsor, and Richmond Districts, and the districts around Braxton, Singleton, and Gosford, on the Northern Railway line.

The proportion of the city supply derived from metropolitan dairies is decreasing steadily. The chief reasons for the decline are the increased land values in the suburban areas and the high price of fodder—cows kept in the city and suburbs must be hand-fed throughout the year. The average yield per cow is increasing in the metropolitan district, as the high cost of maintenance necessitates the elimination of unprofitable animals from the herds.

On the other hand, there is strong evidence of diminishing productiveness in many parts of the South Coast District, where the bulk of the country milk is obtained; although recently there has been an increase in the quantity obtained from the Maitland District. This has an important bearing on the city milk supply, as, unless an improvement is effected, milk will have to be brought to the city from more distant parts of the State.

The law governing the conditions of milk production and distribution is contained mainly in the Dairies Supervision Act of 1901, the Pure Food Act of 1908, and the Dairy Industry Act of 1915. The duty of registering dairies, and supervising and inspecting dairy premises and cattle, is vested in local authorities, but in actual practice the administration is conducted by the Board of Health. There are now 20,000 registered dairymen in the State, and the cattle in their dairy herds number about 650,000—from 100,000 to 150,000 of these being out of milk.

The standard for milk is fixed by regulation under the Pure Food Act. It must contain not less than 8·5 per cent. of milk solids (not fat), and 3·2 per cent. of milk fat.

The Dairy Industry Act, 1915, was passed to regulate the manufacture, sale, storage, transit, and export of dairy produce, including margarine, and for prescribing standards; to provide for the testing, blending, mixing, and grading of cream, and for the grading and branding of butter.

The milk from the metropolitan dairies is distributed direct to the consumer, and the country milk is handled by three large distributing companies. The milk which is sent to two of these companies is delivered at the country railway stations in 10-gallon cans, and carried in louvered vans to Sydney, where it is subjected to a pasteurising process. A preferable method is adopted in the case of the milk sent to the third company; it is treated at a country factory and sent in 600-gallon tanks to Sydney, where it is cooled again before distribution.

The present system of distribution—especially in the case of raw milk—is expensive and ill-adapted for facilitating proper supervision of the milk. The cost is, approximately, 4d. to 6d. per gallon, or three-tenths of the total price paid by the consumer.

The distribution of country milk in the city is already conducted on somewhat similar lines, but the system is only partially co-operative, and a large proportion of the milk is sold wholesale to milk vendors, and not directly to the consumers.

The range of wholesale and retail prices of milk during each year since 1901 is shown below. The wholesale price represents that paid by the distributing companies to the farmer for milk delivered on trucks at country railway stations; the retail price for country milk is that charged by these companies, or by milk vendors, to the householder; and for fresh milk the retail price is that charged by the metropolitan dairyman. The prices quoted from July, 1915, to June, 1916, were fixed by the Necessary Commodities Control Commission, and the later prices by the Commonwealth authorities under the War Precautions (Prices) Regulations:—

Year.	Wholesale.	Retail.		Year.	Wholesale.	Retail.	
		Country.	Fresh.			Country.	Fresh.
	per gal.	per qt.	per qt.		per gal.	per qt.	per qt.
	d. d.	d.	d.		d. d.	d.	d.
1901	6 to 7	4	4-5	1912	6 to 9	5	6
1902	6 „ 10	4-5	5-6	1913	6 „ 9	5	6
1903	6 „ 10	5	5	1914	8 „ 11	5	6
1904	5 „ 6	3-4	4-5	29-7-15	11d.	5½	6
1905	5½ „ 7	4	4	4-9-15	9d.	5	6
1906	6 „ 7	4	4	10-1-16	9d.	5	6
1907	6½ „ 9	4-5	4-5	16-6-16	1s.	...	6
1908	6 „ 12	5	5	17-7-16	1s.	...	6
1909	7 „ 10	5	5	26-9-16	10d.	5	6
1910	6 „ 9	4-5	5	25-10-16	10d.	5½	6
1911	6 „ 9	4-5	5				

The price paid to the farmer for country milk has varied from 5d. to 1s. per gallon; in view of the increased costs of production since 1901, it is generally agreed that in an average year the minimum price payable is 8d. per gallon. The milk received by the distributing companies is retailed to the householder at an advance of from 10d. to 1s. per gallon on the price paid to the farmer, but considerable quantities are sold to vendors at wholesale rates about 3d. per gallon higher than the price paid to the farmer.

PROTECTION AND STANDARDISATION OF FOODS.

Prior to the passing of the Pure Food Act, 1908, limited powers of supervision regarding the preparation and sale of foods had been exercised by the Board of Health and by the various local governing bodies under Acts relating to public health, local government, dairies supervision, cattle slaughtering, etc. Since the enactment of a specific measure, a definite system of regulation has become possible. The administration of the pure food law is entrusted primarily to the Board of Health, with an Advisory Committee, consisting of the President of the Board, and medical men, chemists, merchants, and others, on whose recommendations the Board makes regulations regarding the standardisation, composition, methods and conditions of manufacture, storage, sale, etc., in order to secure

the wholesomeness, cleanliness, and purity of the food supply. Officers appointed under the Act may enter for the purpose of inspection any place used for the sale, storage, delivery, manufacture, or preparation of any article intended for use as a food or a drug. The first code of regulations prescribing the standards for foods and drugs was gazetted on 15th July, 1909. The Commonwealth Department of Trade and Customs has control as to the composition and labelling of foods and drugs imported into Australia.

MUNICIPAL MARKETS.

The Sydney Corporation (Consolidating) Act of 1902 empowers the City Council to establish public markets within its boundaries for the sale of fruit, vegetables, fish, produce, or general merchandise; the Council may grant licenses for hawking and selling in the city, poultry, fish, vegetables, garden produce, and other articles as provided under the by-laws. The Council had a practical monopoly, within the city and within 14 miles of the city boundary, of cattle saleyards, and power to exercise a similar monopoly in regard to sheep, calves, pigs, horses, etc., until 1st July, 1912, when this control, so far as it affects sheep and fat stock, and until 3rd July, 1916, so far as it affects pigs and calves, was assumed by the Government.

Under the Amendment Act of 1905, the Council has power to make by-laws for the regulation and control of all stands and stalls used, in any public way in the city, for the sale of refreshments or fruit.

Under the Local Government Act of 1906, municipalities (excluding Sydney) exercise among their primary functions control as to the regulation and licensing of the hawking of goods; both shires and municipalities have power to lease buildings, wharfs, markets, etc. Among the specific powers of shires is included dairy supervision; among the additional powers which may be acquired by shires and municipalities are those relating to the construction, establishment and maintenance of cattle saleyards and abattoirs and public markets; inspection and regulation of the wholesale and retail sale and of the storage and exhibition for sale of fish, and of rabbits, poultry, and game; and the regulation and supervision of the sale, storage, and exhibition for sale, conveyance, and mode of delivery, by carcass or otherwise, of meat for human consumption, and of the disposal and removal of other meat, and of any offal, or other refuse.

SYDNEY MUNICIPAL MARKETS.

The Municipal Council of Sydney has undertaken the provision of an extensive scheme of markets. Land amounting to about 12½ acres was resumed in 1908 in the Engine-street area, then a closely-populated district, and a growing manufacturing centre. Handsome structures have been erected for the marketing, in separate buildings, of vegetables, farm produce, fruit, fish, and poultry.

The area and cost respectively of the several markets is set down as follows:—

Market.	Floor Space.	Cost of Market.	Market.	Floor Space.	Cost of Market.
	sq. ft.	£		sq. ft.	£
No. 1—Vegetable.	95,560	127,000	Fish	47,517	49,000
No. 2—Produce ...	45,300	48,300	Poultry	2,200	27,500
No. 3—Fruit ...	143,000	119,500			

The vegetable market has 288 stalls which are occupied by the *bond fide* grower, who brings his own produce to market, and conducts the sale by private treaty; the charges are on the dues system at 1s. 6d. per cart load, the minimum amount payable for each stall is 3s. per week. The quantity of vegetables sold per annum, in favourable seasons, is estimated to range from sixteen to twenty thousand tons.

The produce market is occupied almost entirely by agents who receive products from the country and oversea; these agents are allotted stands on the scale of 1s. 6d. per load, with an additional reserving fee of 1s. per week for the particular stand. Surrounding this market are stores which are leased to the agents, who distribute to suburban and distant centres.

The fish market is managed on an entirely different plan. Fish are consigned direct to the Council from the various districts, and are sold by the Council's officers at auction. Salt water, pumped from the harbour, is supplied to the markets for cleansing the fish, and there is a cooling chamber available for the use of shopkeepers and others in the trade.

The catches from the State trawlers do not pass through this market, but are distributed to the public from shops in the city and suburbs.

The fruit market was designed with every convenience for the speedy and careful handling of this delicate food product. Fruit may be conveyed to the market directly by means of a special railway siding, 292 feet in length, which connects with the main railway system. Provision is made for sales by auction, if the consignors so desire, instead of by private treaty.

In all these markets the officers of the Council are charged with the necessary authority for inspection and condemnation.

The poultry market provides accommodation for from fifteen to twenty thousand head of poultry; there is also a special floor for eggs, bacon, butter, cheese, etc. The market is subdivided into stands, which are let to poultry auctioneers; the Council supervises the cleanliness of the market, but has no power in regard to inspection.

Municipal Cold Storage Works.

These works, situated in the Market area immediately adjoining the Fruit Markets, are equipped with chilling and freezing rooms for the storage of fruit, dairy and farm produce, mutton and rabbits.

The total storage capacity of the Chambers, excluding passages and grading rooms, is 208,130 cubic feet. Provision is made to supply power for an ice-making plant, also for a further addition of cooling space as may become necessary.

These works supply a popular demand, and have proved a valuable asset to the Council.

WHOLESALE PRICES.

The determination of average prices of food products is a difficult matter in view of the extensive area of New South Wales, its scattered population, the varying methods of transport, and the sparsity of large central markets. Consequently an average of prices prevailing throughout the State has not been attempted. The following figures represent prices determined in metropolitan markets; for country districts due allowance must be made for cost of transportation, etc.

Average wholesale prices at Sydney sales of the principal kinds of farm and dairy produce are given for the seven years, 1910 to 1916. The average for the year represents the mean of the prices ruling during each month,

and does not take into account the quantity sold during the month. The figures are those quoted by the middleman and not those obtained by the producers :—

Farm and Dairy Produce.	1910.	1911.	1912.	1913.	1914.	1915.	1916.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wheat ...bush.	0 3 10	0 3 6	0 4 1	0 3 7	0 4 2	0 5 5	0 5 0
Flour ... ton	9 14 6	8 9 10	9 8 11	8 12 9	9 9 8	13 7 0	11 5 4
Bran ...bush.	0 0 10½	0 0 11¾	0 1 2¼	0 0 11	0 1 1	0 1 3¼	0 0 10½
Pollard ... „	0 0 10¼	0 0 11¾	0 1 3¼	0 0 11¼	0 1 1	0 1 5½	0 1 0¼
Barley ... „	0 3 0¾	0 2 9	0 4 4	0 2 11¾	0 2 11	0 5 5½	0 3 4½
Oats ... „	0 2 5¼	0 2 8	0 3 6½	0 3 0	0 3 0	0 4 7	0 2 10½
Maize ... „	0 2 11¼	0 3 0	0 4 8	0 4 1¼	0 3 11½	0 5 2¼	0 4 6
Potatoes... ton	6 12 2	6 1 3	8 12 9	4 16 6	4 14 8	7 9 1	8 14 0
Onions ... „	4 16 3	4 7 9	12 4 3	7 18 9	9 2 10	7 19 0	5 0 9
Hay— Oaten or Wheaten ton	3 17 6	4 15 3	6 6 6	4 15 3	4 17 2	8 4 8	4 7 0
Lucerne „	3 1 7	3 5 0	4 18 9	4 19 0	4 9 4	5 16 7	4 6 0
Chaff ... „	4 4 0	4 4 3	5 14 0	4 7 9	5 3 6	7 3 8	4 8 6
Butter ... lb.	0 0 11½	0 0 10¾	0 1 0	0 0 11	0 0 11½	0 1 2¾	0 1 3
Cheese ... „	0 0 6¼	0 0 7¼	0 0 8½	0 0 7	0 0 7½	0 0 9½	0 0 9
Bacon ... „	0 0 7½	0 0 7	0 0 8½	0 0 9¾	0 0 9¾	0 0 10½	0 1 0
Eggs ... doz.	0 1 0½	0 1 0½	0 1 2¼	0 1 2¾	0 1 1	0 1 4½	0 1 3
Milk ... gal.	0 0 10	0 0 9¼	0 0 11¼	0 0 11	0 0 11¾	0 1 0	0 1 2¼
Poultry— Fowls ... pair	0 4 10	0 4 8	0 5 0	0 4 10	0 5 5	0 5 6	0 5 9
Ducks ... „	0 3 1	0 3 3	0 3 3	0 4 4	0 4 5	0 3 11	0 4 11
Geese ... „	0 6 2	0 5 8	0 6 3	0 7 0	0 6 8	0 6 4	0 8 0
Turkeys.. „	0 12 8	0 11 3	0 15 9	0 11 0	0 11 2	0 13 3	0 14 3
Bee produce— Honey ... lb.	0 0 3½	0 0 2½	0 0 3	0 0 3½	0 0 3¾	0 0 4¼	0 0 4¾
Wax ... „	0 1 2	0 1 1½	0 1 2½	0 1 2¾	0 1 2½	0 1 4	0 1 4½

These figures call for little comment beyond the caution already given that, in regard to the prices of commodities generally, the averages are irrespective of the quantities sold. As regards most of the articles in the list, the lower the price the larger the consumption. The exception to this rule is poultry, which is most in demand before the Christmas season, when prices are correspondingly high.

In comparison with the yearly prices, the averages of the wholesale prices current during each month of 1916 are quoted for the more important articles of New South Wales agricultural production :—

Month.	Wheat (Milling).	Flour (in 150 lb. bags).	Bran.	Pollard.	Oats.	Maize.	Hay (Oaten).
	per bushel.	per ton.	per bushel.	per bushel.	per bushel.	per bushel.	per ton.
	s. d.	£ s. d.	d.	d.	s. d.	s. d.	£ s. d.
January ...	5 3½	11 17 6	9·6	15·6	3 4¾	†6 2½	4 17 6
February ...	5 3½	11 17 6	11·2	14·8	3 1½	†5 4¾	4 2 6
March ...	5 2	11 11 3	11·0	11·4	2 10¼	5 0	4 7 0
April ...	4 10¾	11 5 0	10·8	10·8	2 9½	4 3½	4 5 0
May ...	4 10¾	11 0 0	12·0	12·0	2 11½	4 6¾	4 11 9
June ...	4 10¾	11 0 0	12·0	12·0	2 11½	4 7½	4 11 9
July ...	4 10¾	11 0 0	10·8	13·2	2 10½	4 6	4 16 3
August ...	4 10¾	11 2 6	9·6	12·0	2 9¼	4 0½	3 13 0
September ...	4 10¾	11 2 6	9·6	12·0	2 9¼	4 0	3 15 3
October ...	4 10¾	11 2 6	9·6	12·0	2 7½	3 11	4 7 6
November ...	4 10¾	11 2 6	9·2	10·2	2 9	3 9½	4 15 0
December ...	4 10¾	11 2 6	9·0	10·8	2 8½	3 9¾	4 1 3
	†						
	Potatoes (Local).	Butter (Good Brands).	Cheese (Prime).	Bacon (Sides).	Lard (Bulk).	Eggs.	
						Country Consign- ments.	New Laid.
	per ton.	per lb.	per lb.	per lb.	per lb.	per doz.	per doz.
	£ s. d.	d.	d.	d.	d.	s. d.	s. d.
January ...	14 6 9	13½	10	12	10¾	1 2¼	1 5
February ...	10 0 0	13¾	9½	12	10	1 5¼	1 8
March ...	9 10 0	13½	9½	12	10¼	1 7½	1 10½
April ...	7 7 0	13½	9½	12	10½	1 9¼	2 2½
May ...	6 15 0	14	9½	12	10½	1 11½	2 5¼
June ...	6 10 9	15	9¾	12	10½	1 8½	2 1¾
July ...	7 16 9	15½	10½	11	10	1 5½	1 8¼
August ...	7 5 0	15½	9¾	10¾	8¾	1 0½	1 2
September ...	6 0 0	15½	9¼	10¾	8½	0 11½	1 1
October ...	6 3 3	16	8½	11½	8½	0 9¾	0 11½
November ...	7 5 0	16	9½	12	8½	0 9½	0 11½
December ...	5 18 3	16	9¾	12	8½	0 11	1 2¾

† Imported.

The price quoted for wheat represents the average official f.o.b. price of grain used for flour for home consumption ; this includes 3½d. handling and commission charges, but city millers handling grain for their own mills obtain it for 1½d. per bushel less than the f.o.b. price. On 25th March,

1916, the f.o.b. price was reduced to 4s. 10 $\frac{3}{4}$ d. per bushel, and since that date the price for flour for home consumption has been 4s. 9d. per bushel (on trucks) at Sydney.

Of barley and oats, the bulk are imported, and the prices of these cereals during 1916 were much lower than in the previous year. Maize is largely of local growth; there was a shortage during 1915, and the price was high, but it decreased in 1916 from 6s. 2 $\frac{1}{2}$ d. in January to 3s. 9 $\frac{3}{8}$ d. in December.

Prices for the various kinds of fodder declined during 1913 in consequence of favourable seasons and remained steady until October, 1914, when want of rain caused a large increase, which continued until July, 1915, and prices showed a downward tendency. Early in 1916 they decreased to a normal level, and remained fairly constant throughout the year.

Root crops show very great range; thus locally-grown potatoes varied between £14 6s. 9d. in January and £5 18s. 3d. per ton in December.

Prices of the items set forth in the tables just given are determined by the local demand, wheat excepted, its price being fixed usually by that ruling in the markets of the world. Since 1914 it has been fixed by law.

The prices of pastoral and other primary produce, which form so large a proportion of the exports of the State, are not sensibly affected by local consumption, but are established by the prices ruling in London.

In the following table are given for six years the Sydney average f.o.b. prices of the principal pastoral products:—

Pastoral Produce.	1911.	1912.	1913.	1914.	1915.	1916.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Beef lb.	0 0 2 $\frac{3}{4}$	0 0 2 $\frac{3}{4}$	0 0 3 $\frac{1}{4}$	0 0 3 $\frac{3}{8}$	0 0 5 $\frac{1}{2}$	0 0 6 $\frac{1}{2}$
Mutton „	0 0 2 $\frac{1}{2}$	0 0 3	0 0 3	0 0 3 $\frac{7}{12}$	0 0 4 $\frac{3}{8}$	0 0 5 $\frac{1}{4}$
Wool—Greasy „	0 0 9	0 0 9	0 0 9 $\frac{3}{4}$	0 0 9 $\frac{1}{4}$	0 0 9 $\frac{7}{8}$	0 1 1
Scoured „	0 1 3	0 1 3 $\frac{1}{4}$	0 1 5	0 1 4	0 1 4 $\frac{1}{8}$	0 1 8 $\frac{3}{4}$
Sheepskins with Wool bale	17 15 0	19 16 0	22 17 0	20 18 0	21 4 7	25 16 2
Hides each	1 2 3	1 4 0	1 9 4	1 8 0	1 12 0	1 9 3
Leather bale	34 0 0	34 16 8	39 19 9	47 15 4	50 2 0	55 5 8
Tallow cwt.	1 8 6	1 9 3	1 10 3	1 8 4	1 12 5	1 16 6

Leather is included as a pastoral product, although it might be regarded as a manufactured article.

In 1913 the prices of all the products shown in the table, with the exception of wool, sheepskins, hides, and tallow, were the highest throughout the period 1907–13. In 1914 the prices were affected by the war—the price of meat rose considerably, and that of leather was maintained at a high level; but trade dislocations resulted in a decline in the prices of wool, skins, hides, and tallow; towards the close of the year, however, there was a marked improvement. The influence of the war may still be seen in the prices for 1915, all products showing a decided increase, which continued in 1916, except for hides, which were slightly lower than in the previous year.

The following statement shows the fluctuations during 1916 in the prices obtained in London for the more important articles of New South Wales produce :—

Month.	Wheat.	Flour.	Butter.†	Wool.		Tallow.
				Greasy.	Scoured.	
	per qr. s. d.	per ton. £ s. d.	per cwt. s.	per lb. d.	per lb. s. d.	per cwt. s. d.
January ...	*	*	143½	13½	1 6½	43 0
February ...	*	*	149	15½	1 8½	43 0
March ...	*	*	153	14	1 6½	42 3
April ...	*	16 15 9	158	13½	1 8½	42 6
May ...	*	16 13 4	160	12½	1 9½	43 0
June ...	*	15 18 0	160	13½	1 9½	42 8
July ...	61 6	*	160	15½	1 10½	41 6
August ...	72 3	17 1 9	168	14½	1 10½	41 10
September ...	69 9	17 19 0	187	14½	1 10½	35 1
October ...	74 3	19 8 0	197	17½	2 7½	36 9
November ...	78 0	20 16 0	203	17½	2 7½	45 1
December ...	83 9	21 3 3	208	19½	2 1½	45 0

* On account of the European war no quotations were given. † Average top price for Australian Butter (Finest Quality) only. No separate quotation for New South Wales Butter.

PRICES OF METALS.

The next table shows the Sydney average f.o.b. prices of the principal metals and of coal produced in the State. These, like pastoral products, are not affected by the local demand, but depend upon the prices obtained in the world's markets :—

Metals.	1911.	1912.	1913.	1914.	1915.	1916
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Silver ...oz.	0 2 0½	0 2 4	0 2 3½	0 2 1½	0 1 11¼	0 2 7½
Copper ...ton	54 18 4	72 10 0	63 13 4	60 16 8	73 0 0	115 15 0
Tin ...,,	188 1 8	209 1 8	202 5 0	153 0 0	164 17 1	181 15 0
Lead ...,,	13 3 4	17 3 4	18 15 0	19 1 8*	22 19 2	31 1 8
Coal ...,,	0 10 8	0 10 8	0 10 9	0 10 7	0 10 7	0 11 3

* No quotations during 3 months, August-October.

The values of the industrial metals showed a large decline during 1908, and the low prices continued until 1912, except in the case of tin, which advanced steadily from the beginning of 1909, reaching a maximum in 1912. During 1912 there was a steady advance in the prices for all these metals, but, with the exception of lead, they were slightly lower in 1913. In 1914 the prices were affected adversely by the war, but in 1915 prices of copper, tin and lead rose again owing to the increased demand for war purposes, and

in 1916 high prices were realised for all the industrial metals, notably copper and silver. The export price of coal, which had been fairly constant for some years, rose slightly during 1916.

INDEX NUMBERS—EXPORT PRICES.

The following statement shows the variation since 1901 in price levels of the principal articles of domestic produce exported from New South Wales calculated on the average f.o.b. prices at Sydney. The average prices prevailing in 1901 were adopted as the basis and called 1,000 :—

Period.	General Index— All articles.	Pastoral Products— Wool, Tallow, Hides, Leather, etc.	Metals— Silver, Lead, Copper, Tin.
1901	1,000	1,000	1,000
1902	1,065	1,096	935
1903	1,065	1,125	992
1904	1,071	1,112	1,011
1905	1,150	1,192	1,149
1906	1,277	1,316	1,432
1907	1,343	1,354	1,461
1908	1,164	1,122	1,073
1909	1,183	1,137	1,066
1910	1,205	1,214	1,111
1911	1,194	1,194	1,189
1912	1,327	1,263	1,454
1913	1,337	1,408	1,451
1914	1,335	1,451	1,302
1915	1,620	1,686	1,464
1916	1,878	1,988	1,948

SYDNEY RETAIL PRICES.

The following table shows the average retail prices in Sydney of various commodities at intervals from 1890 to 1910. The quotations are based on the prices charged in the shops in the metropolitan district. The 1913 edition of the Year Book gives average prices of commodities in each year from 1900 to 1910, and the 1905-6 edition the average prices in each year from 1870 to 1900.

Commodity.	1890.	1895.	1900.	1905.	1910.
	s. d.	s. d.	s. d.	s. d.	s. d.
Bread ... 2 lb. loaf	0 3½	0 2¾	0 3	0 2¾	0 3½
Tea ... lb.	1 6	1 6	1 4	1 3	1 3
Coffee ... "	2 0	1 9	1 6	1 6	1 6
Sugar ... "	0 3½	0 2½	0 2¼	0 2½	0 2¼
Rice ... "	0 4	0 2½	0 2¼	0 2½	0 2½
Oatmeal ... "	0 3	0 2	0 2½	0 2½	0 2½
Starch ... "	0 5	0 4	0 3½	0 5	0 5
Soap ... "	0 3½	0 2	0 3	0 3½	0 3½
Potatoes ... cwt	6 0	4 3	6 9	10 6	7 6
Butter ... lb.	1 0	1 0	0 11	1 1	1 1
Cheese ... "	0 8	0 8	0 7½	0 8	0 9
Eggs ... doz.	1 6	1 0	0 11	1 0	1 3
Bacon ... lb.	1 0½	0 7½	0 7½	0 9	0 10
Beef, fresh ... "	0 4	0 3	0 3½	0 5½	0 5½

Since the beginning of 1911 particulars are available regarding a larger number of articles, and returns of prices are now collected monthly. The mean of the monthly prices during 1911 and subsequent years is shown in the following statement:—

Article.	Average Prices.				
	1911.	1913.	1914.	1915.	1916.
	s. d.	s. d.	s. d.	s. d.	s. d.
Bread per 2 lb. loaf	0 3·5	0 3·5	0 3·5	0 4·2	0 4
Flour 25-lb. bag	2 8	2 10	2 10	4 0·7	3 6·1
Tea lb.	1 3·5	1 3·8	1 3·8	1 5	1 6·1
Coffee "	1 5	1 5·5	1 6	1 6	1 6
Cocoa ½ lb.	0 4·2	0 4·2	0 4·2	0 4·2	0 4·6
Sugar lb.	0 2·7	0 2·7	0 2·7	0 2·9	0 3·5
Rice "	0 2·7	0 3	0 3	0 3	0 3·2
Sago "	0 2·7	0 2·7	0 2·7	0 2·7	0 3·2
Jam (Australian) "	0 4·4	0 5	0 5	0 5·2	0 6
Oatmeal 5 lb.	1 0·5	1 2·3	1 1·2	1 5·8	1 2
Raisins lb.	0 6·2	0 6·4	0 6·4	0 6·5	0 7·7
Currants "	0 7	0 7·2	0 7·1	0 7·8	0 9·1
Starch "	0 5·5	0 5·4	0 5·4	0 5·5	0 6·4
Blue doz. squares	0 9	0 9	0 8·7	0 9·1	0 9·2
Candles lb.	0 7	0 6·5	0 6·6	0 6·9	0 8
Soap "	0 3	0 3·3	0 3·3	0 3	0 3·4
Potatoes 14 lb.	1 0·2	1 0·8	1 1·1	1 5·3	1 6·5
Onions lb.	0 1	0 1·3	0 1·5	0 1·5	0 1·1
Kerosene gal.	0 11·1	1 0·2	1 0·7	1 1·5	1 6·7
Milk qt.	0 4·3	0 5·2	0 5·3	0 5·1	0 5·5
Butter lb.	1 1·5	1 1·8	1 2·2	1 5	1 5·3
Cheese—New "	0 8·7	0 9·5	0 10	1 0	1 0·1
Matured "	0 10	0 10·6	0 11·3	1 0·6	1 0·2
Eggs—New laid doz.	1 6·5	1 8·4	1 7·6	1 11	1 9·5
Fresh "	1 3·5	1 5·1	1 4·2	1 7·5	1 6·4
Bacon—					
Middle cut lb.	0 10·5	1 0·7	1 0·1	1 3	1 4·5
Shoulder "	0 7	0 8·7	0 8·2	0 10·2	1 0·4
Ham "	1 1	1 2	1 1·8	1 3·3	1 5·5
Beef (fresh)—					
Sirloin lb.	0 4·5	0 5	0 5·9	0 9·8	0 11·1
Ribs lb.	0 3·8	0 4·5	0 5	0 8	0 9·5
Flank "	0 3·5	0 4	0 3·9	0 7·3	0 8·5
Gravy beef "	0 3	0 3·5	0 3·8	0 6·2	0 7·6
Steak—Rump "	0 7	0 7·9	0 8·7	1 0·2	1 1·8
Shoulder "	0 3·5	0 3·5	0 4·5	0 7	0 8·5
Buttock "	0 4	0 4	0 4·5	0 7·3	0 8
Beef (corned)—					
Round "	0 4	0 4·4	0 5	0 7·8	0 9·6
Brisket with bone "	0 2·2	0 2·7	0 3·5	0 5·7	0 6·5
Mutton—					
Leg "	0 3	0 3·8	0 4·8	0 6·2	0 7·8
Shoulder "	0 2·5	0 3·1	0 3·9	0 5·4	0 6·7
Loin "	0 3·8	0 4	0 5·1	0 6·7	0 7·9
Neck "	0 3	0 3·5	0 4	0 5·8	0 7
Chops—Loin "	0 4·2	0 4·7	0 6	0 7·8	0 9
Leg "	0 4	0 4·7	0 5·9	0 7·3	0 8·6
Neck "	0 3·5	0 4	0 4·7	0 6·1	0 7·3
Lamb—					
Fore-quarter each	1 9	2 5	2 8·4	†3 3	*0 7·7
Hind-quarter "	2 9	3 6·2	3 11·2	†4 5	*0 8·7
Pork (fresh)—					
Leg lb.	0 7·8	0 8·5	0 9·3	0 11	1 0·1
Loin "	0 7·5	0 8·7	0 9·3	0 11·1	1 0·1
Belly "	0 6·5	0 8	0 7·8	0 9·8	1 0
Chops "	0 8·5	0 9	0 10·5	0 11·8	1 0·1

* Per lb.

† Mean of months January to July. From August to December the averages were Forequarter, 7d. per lb., hindquarter, 7½d.

While the above tables are useful for comparative purposes, in regard to the cost of living, the figures do not disclose a most interesting feature in a history of prices, namely, the fluctuations during the year, which are pronounced, especially in the case of perishable produce. The prices in each month of the year 1916 are shown below :—

Article.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Bread 2 lb. loaf	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4	d. 4
Flour 25 lb. bag	44-6	44-6	44-6	43-1	42-7	42-4	42-4	41-4	40	39-7	40	40-1
„ Self-raising ... 2 lb.	6	6	6	6	6	6	6	5-9	5-9	5-9	5-9	5-9
Tea lb.	18	18	18	18	18	18-2	18-2	18-2	18-2	18-2	18-2	18-2
Coffee and Chicory ...	17-7	17-7	17-7	18	18	18	18-2	18-2	18	18	18	18
Cocoa 1/2	4-4	4-4	4-4	4-5	4-6	4-6	4-7	4-6	4-7	4-6	4-6	4-6
Sugar lb.	3	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5
Rice „	3-1	3-1	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2
Sago „	2-7	2-7	3-1	3-2	3-2	3-2	3-5	3-5	3-4	3-4	3-4	3-4
Jam (Australian) ...	5-5	5-5	5-9	5-9	5-9	5-9	6	6	7	6	6	6
Oatmeal 5 lb.	17-1	14-5	15-1	14-5	13-4	13-1	13	13-4	13-4	13-4	13-4	13-4
Raisins lb.	7	7	7-6	7-6	7-9	7-9	8-1	7-9	7-9	7-9	7-9	7-9
Currants „	9-2	9-5	9-4	9-4	8-9	8-9	9	9	9	9	9	9
Starch „	5-5	5-6	5-6	5-9	5-9	6-4	6-4	7	7	7	7	7
Blue doz. squares	9-2	9-2	9-2	9-2	9-2	9-2	9-2	9-2	9-2	9-2	9-2	9-2
Candles lb.	7-4	7-5	7-5	7-6	8-2	8-2	8-2	8-2	8-2	8-2	8-2	8-2
Soap „	3	3-1	3-2	3-2	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5
Potatoes 14	28-5	26	29-5	16-5	17	15	15-5	17	15-7	16	18-5	16
Onions lb.	1	1	1	1	1	1	1-1	1	1	1-2	1-5	1-5
Kerosene gal.	15	15	17-1	17-2	19-4	19-4	19-4	20-4	20-4	20-1	20-1	20-4
Milk qrt.	5	5	5	5	5	5-5	6	6	6	6	6	6
Butter lb.	15-5	17	16	16	17	17-2	18	18	18	18-1	18-4	18-1
Cheese—												
New „	12-9	12-1	12	11-9	12	12	13-1	13	12-6	11	11	11
Matured „	13-1	12-1	12	11-9	12-3	12-3	13-4	13-1	13	10-6	11-2	11-2
Eggs—												
New laid doz.	20-8	23-2	26-5	30-5	35	30-5	26-6	18	15-5	15	14-4	17-7
Fresh „	18-6	21	24-2	26-2	26-8	25-2	22-8	15-3	13-7	12-5	12	15
Bacon—												
Middle cut lb.	17-2	17-2	17-1	17-2	17-1	17	15-9	14-2	15-6	15-9	16-5	16-9
Shoulder „	13-1	13-5	13-1	13-4	13-1	13	11-9	10-6	11-4	11-6	12-1	12-1
Ham „	18-8	18-9	18-9	18-9	17-9	17-4	16	13-9	16	17-2	18	17-9
Beef (fresh)—												
Sirloin „	11-2	11-5	11-4	11-3	11-2	11-2	11-1	11-5	11	10-7	10-7	10-5
Ribs „	9-2	9-5	9-8	9-6	9-7	9-8	9-5	9-5	9-2	9-5	9-4	9-1
Flank „	8-5	8-5	8-3	8-6	8-7	9	8-4	8-5	8-3	8-5	8-4	8-5
Shin (without bone) }												
Gravy beef ... }	7-8	8	7-8	7-3	7-7	7-3	7-5	7-5	7-5	7-5	7-7	7-7
Steak—												
Rump „	14-3	14	14-3	14-2	14-2	14-3	14-2	13-5	13	13-3	13	13
Shoulder „	8-7	8	9	8-6	8-7	8-5	8-7	8-5	8-5	8-5	8-2	8-2
Buttock „	8	8	8-8	9-1	7-7	8	7-6	8	7-6	7-5	7-7	7-7
Beef (corned)—												
Round „	9-8	10	10	10-1	9-9	10	9-9	9-8	9	9-2	9-2	9
Brisket (with bone) }	6-5	6-7	6-7	6-8	7	6-2	6-2	6-5	6-5	6-5	6-2	6-2
Mutton—												
Leg „	6-7	7-7	8	7-9	7-7	8-2	8-4	7-7	8-1	7-9	7-7	7-9
Shoulder „	5-5	6-4	6-6	6-6	6-6	7-2	7-5	7-3	7-1	6-7	6-5	6-7
Loin „	6-9	7-4	7-8	7-6	7-9	7-7	8-6	8	8-5	8-5	8	8-3
Neck „	6-1	6-6	6-8	6-6	7-1	7	7-1	7-1	7-6	7-1	7	7-5
Chops—												
Loin „	7-9	8-5	9	8-9	9-2	8-9	9-6	8-9	9-5	9-2	9-2	9-6
Leg „	7-6	8-3	8-8	8-4	8-4	8-7	9-4	8-8	8-8	8-7	8-7	8-7
Neck „	6-6	6-7	7-4	7-2	7-6	7-3	7-6	7-5	7-8	7-5	7-2	7-5
Lamb—												
Forequarter „	6-5	7-4	7-3	7-5	7-7	8-3	8-2	7-8	7-8	7-7	7-9	8
Hindquarter „	7-5	8-4	8-3	8-5	8-7	9-3	9-2	8	9	9	9	9-4
Pork (fresh)—												
Leg „	12	12	12	12	12	12	12	12	12	12	12	13-3
Loin „	12	12	12	12	12	12	12	12	12	12	12	13-3
Belly „	12	12	12	12	12	12	12	12	12	12	12	12
Chops „	12	12	12	12	12	12	12	12	12	12	12	12-2

The average prices of the main grocery lines showed a slight increase throughout the year. The price of flour as fixed by proclamation was reduced on 21st March, and again on 5th May.

The price of oatmeal, which was high during 1915 owing to scarcity of grain, was reduced considerably early in 1916.

In average seasons the local production of potatoes is far below the demand, and the deficiency is met by importation from Tasmania and Victoria. A sharp rise in price occurred in June, 1915, and the increase continued till January, 1916, when the rate reached over 2d. per lb.; but during the succeeding three months it decreased considerably.

As in the case of potatoes, the local production of onions is supplemented by importation, mainly from Victoria. The price showed a tendency to increase towards the end of the year.

Butter being an article of export, fluctuations in the London prices are reflected by similar movements in the prices at Sydney during the export season—September to March. The prices of butter usually advance at the beginning of winter, when supplies decrease, and drop with the approach of spring weather. High prices ruled throughout 1916.

The prices of cheese were high in 1916; during the latter half of the year, seasonal decreases were recorded.

The price of hams was high at the beginning of the year; decreases occurred between June and August, but the price advanced again towards the end of the year in response to the increased demand for the Christmas season.

FOOD SUPPLIES AND PRICES DURING WAR!

The following is a review of the measures taken by the Government of New South Wales to regulate the supplies of foodstuffs and other necessary commodities during the war, and to prevent undue inflation of prices.

Necessary Commodities Control Act.

The Necessary Commodities Control Act was passed in August, 1914, to provide for the review of prices of necessary commodities during the present war, and for a further period not exceeding six months, as determined by proclamation. A "necessary commodity" is defined as follows:—

- (a) Coal, firewood, coke, or other fuel.
- (b) Gas for lighting, cooking, or industrial purposes.
- (c) Any article of food or drink for man or for any domesticated animal.
- (d) Any article which enters into, or is used in the composition or preparation of any of the foregoing.
- (e) Any article which, after a report of the Commission has by resolution of both Houses of Parliament, been declared to be a necessary commodity.

The Act provides for the appointment of a Commission of three persons, one being a judge of the Industrial Arbitration Court, to inquire into and report as to prices of necessary commodities, and to advise the Governor as to maximum selling prices.

The Governor, by notice in the *Gazette*, may declare the maximum prices at which any necessary commodity may be sold for consumption in New South Wales, and may fix different prices according to differences in quality, description, or quantity sold, also for different parts of the State, and may vary any price fixed or annul any such notice.

Any person who sells or offers for sale, any necessary commodity at a price higher than the declared price, is liable to a penalty of £100, or in case of

sale, may be required to refund the excessive amount to the purchaser; and any person who refuses to sell at the declared or lower prices any necessary commodity in his possession, in excess of his family requirements for six months, is liable to a penalty not exceeding £100.

The Governor, on the recommendation of the Commission, may order to be furnished returns of all necessary commodities in the State, and may authorise the seizure and distribution of necessary commodities withheld from sale, paying the declared price less a reasonable amount to cover expenses. The following commodities were considered by the Commission, and prices fixed:—wheat, flour, bread, biscuits, oatmeal, butter, cheese, hams, bacon, pork, pigs, milk, cream, condensed milk, sugar, jam, tinned fruit, wine and spirits, plum puddings, rice, cordials, baking powder, bran, pollard, sharps, chaff, hay, oil (kerosene, benzine, etc.) and gas.

The Commission operated until 20th July, 1916, when the Commonwealth Government appointed the Commonwealth Prices Adjustment Board, under the Commonwealth War Precautions Act, which assumed the control of prices of foodstuffs, necessary commodities and services. A Commissioner was appointed in each State to collect evidence for submission to the Federal Board. On his advice the Board recommends to the Minister the prices and rates to be fixed. Commonwealth proclamations have been issued in respect of wheat, bread, flour, bran and pollard, soap, butter, milk, plum puddings, cheese, bacon, hams, Glaxo, Lactogen, rabbits and oil. The prices of other commodities already proclaimed by the Necessary Commodities Commission were allowed to remain operative in New South Wales, the Minister having adopted those prices when the Commonwealth Government assumed control.

Wheat Acquisition Act.

The Wheat Acquisition Act was passed in December, 1914, to enable the Government to acquire wheat in New South Wales, to provide for compensation, and for the sale and distribution of wheat so acquired; also for varying or cancelling certain contracts for the sale and delivery of wheat. The Act, with subsequent amendments, was in operation until 31st December, 1915.

The Governor, by notification in the *Gazette*, could declare that any wheat was acquired by the Crown, and the wheat became the absolute property of the Crown, freed from all mortgages, liens, pledges, interests and trusts; and the rights and interests of every person in the wheat were converted into a claim for compensation under the provisions of the Act.

The amount of compensation was fixed at 5s. per bushel of wheat of fair average quality, delivered at the nearest railway station; and a further amount per bushel was to be paid if so determined by the Commissioners appointed under the Necessary Commodities Control Act.

The administration of the Act was entrusted to a Board of five persons appointed by the Governor, who were empowered to dispose of the wheat on behalf of the Government. All contracts made in New South Wales prior to the passing of the Act in relation to New South Wales wheat of the 1914-15 season to be delivered in the State were declared void; also contracts for the sale of flour to be delivered after 1st January, 1915.

On the 18th and 22nd December, 1914, the wheat in certain areas and in transit to Sydney was acquired, and on 24th December a notification was made of the acquisition of all wheat in New South Wales, except the quantity which at that date was actually in transit to the other Australian States.

The validity of the Wheat Act was challenged by the Federal Government on the ground that the detention of wheat under contract for delivery in another State was in contravention to provisions of the Commonwealth Constitution Act relating to trade and commerce. The case was heard before the Interstate Commission, who determined that the State Government had acted in contravention to the Commonwealth law, but on appeal to the High Court the Wheat Acquisition Act was declared valid.

The Necessary Commodities Control Commission regulated the price of wheat until the 15th December, 1915, and the control has since been in the hands of the Australian Wheat Board, consisting of the Commonwealth Prime Minister and the Ministers of Agriculture of New South Wales, Victoria, South Australia, and West Australia. On the above date, the price was fixed at 5s. 3½d. per bushel, f.o.b. Sydney, and on 22nd March, 1916, a reduction was made to 4s. 10¾d., f.o.b. Sydney, or 4s. 9d. on trucks. These prices were still in operation at the end of July, 1917. The State Wheat Office has charge of all wheat operations in New South Wales, and, though it is not now compulsory for farmers and others to hand over all wheat to the Government, the export is prohibited, except through the State Wheat Office. Particulars of the operations of the Wheat Board are given in the chapter relating to Agriculture.

HOUSE RENTS.

Information regarding Housing is given in the chapter of this Year Book relating to "Social Condition," and particulars below show the actual average amounts paid by tenants of various types of houses in Sydney and suburbs during each of the past four years. The figures represent the average predominant rents paid for each class of house, as the range of rents varies considerably according to locality, position, and class of building rented:—

Class of House.	1912.	1913.	1914.	1915.	1916.
	s. d.	s. d.	s. d.	s. d.	s. d.
Under 3 rooms and kitchen..	11 3	12 0	12 6	12 3	12 3
3 rooms and kitchen	13 3	14 3	15 6	14 6	14 9
4 " " " " " "	17 3	18 6	18 6	18 0	18 0
5 " " " " " "	20 6	21 9	22 0	20 9	20 6
6 " " " " " "	25 0	26 0	26 6	25 0	24 6

It has been established that the average householder usually spends about a quarter of his income on rent, and therefore any fluctuation in rents exerts a large influence on the cost of living. During the ten years prior to the outbreak of war, rents in Sydney and suburbs increased by about 40 per cent., but the war has had a steadying effect, and the past three years have shown a slight decrease. Rents vary in the suburbs in accordance with the class of people constituting the population.

The progress which has marked the operations of building societies during recent years, particularly those which favour the ballot and sale system of advances, indicates that, to a large extent, the industrial classes are endeavouring to become freeholders.

The increase in house rents was the subject of an investigation by a Select Committee of the Legislative Assembly of New South Wales appointed in 1911. The rise was ascribed to the increase of population, the increased cost of labour and material, the demolition of buildings by public authorities, the growing demand resultant upon general prosperity, and the increased popularity of cottages in preference to the less costly terrace houses.

Following the recommendations of the Committee the Fair Rents Act was passed on the 29th December, 1915, for the purpose of determining the fair rental of dwellings valued at less than £156 per annum. The Act provided for the establishment of Fair Rents Courts, consisting of a Stipendiary or Police Magistrate, and also for the appointment of Registrars and other necessary officers.

FAIR RENTS COURT.

In order to determine the fair rent the Court must ascertain the capital value of the dwelling, which is the unimproved capital value of the land plus the estimated cost of erecting a dwelling similar to that existing at the date of the application, less a fair sum for depreciation.

The rental is fixed on the capital value at a rate not less than that charged on overdrafts by the Commonwealth Bank of Australia, and not more than 2½ per cent. above such amount, plus rates, taxes, repairs, maintenance, insurance, and depreciation. The amount fixed by the Court remains in force from six months to three years when specifically stated, but if no special period be mentioned the duration is three years. The Act does not apply to houses leased for a period exceeding three years.

The first sittings of the Fair Rents Court were held on the 13th March, 1916. The operations of the Act may be applied to any localities proclaimed by the Governor, but up to the present, the cases have been confined to the metropolitan area.

There were 579 appeals dealt with from the commencement of the Court to 31st March, 1917, which covers practically twelve months of the Court's operations; of these 44 cases were struck out for want of jurisdiction, and 94 were withdrawn. The decisions of the Court embraced 424 premises, excluding 14 which contained shops; in 134 cases the rents were fixed as at the date of application, in 7 the rents were increased, and in 283 reductions were granted. With few exceptions, the period of adjustment was twelve months.

The districts from which the 579 applications came were:—City, 110; Suburbs—North western, including Balmain, Leichhardt, Annandale, and Glebe, 55; West Central, including Newtown, Erskineville, and St. Peters, 40; East Central, including Redfern, Waterloo, Alexandria, and Mascot, 52; Eastern, including Paddington, Randwick, Waverley, and Woollahra, 160; Western, including Ashfield, Burwood, Enfield, Drummoyne, Marrickville, and Petersham, 111; Southern, including Canterbury, Bexley, Hurstville, and Kogarah, 12; and Northern, including North Sydney, Mosman, Willoughby, Lane Cove and Manly, 39.

The majority of dwellings affected by the decisions of the Court were small, containing not more than 5 rooms and kitchen; in 325 cases the rents did not exceed £1 per week:—

Rents (at date of Application).	Fixed as at date of Application.	Increased.	Reduced.	Total.
10s. and under	6	...	9	15
10s. to 12s. 6d.	3	...	32	35
12s. 6d. to 15s.	21	1	100	122
15s. to 17s. 6d.	28	2	56	86
17s. 6d. to 20s.	27	1	39	67
20s. to 25s.	32	1	24	57
25s. to 30s.	7	2	6	15
30s. to 40s.	7	...	9	16
40s. to 50s.	3	...	6	9
50s. to 60s.	...	...	2	2
Total...	134	7	283	424

The minimum rent appealed against was 7s. for a property at Newport, which was not altered. The next lowest was for premises valued at 7s. 6d. per week, for which a reduction of 1s. 6d. was granted. The highest amount for a dwelling was £3 per week, which was reduced to £2 5s.

The amount of reduction varied from 6d. to 20s. per week, the latter being the largest absolute decrease allowed, and it was granted in respect to a property of which the rent was reduced from £2 5s. to £1 5s.

The amount of reduction in the rents of 283 dwellings may be seen in the following statement:—

Amount of Reduction.	No.	Amount of Reduction.	No.
6d.	16	3s. 6d. to 4s.	17
1s.	62	4s. 6d. to 5s.	11
1s. 3d. to 1s. 6d.	54	over 5s.	6
2s.	55		—
2s. 6d.	42	Total ...	283
2s. 9d. to 3s.	20		

The average reduction amounted to 12·1 per cent., ranging from 11·6 per cent. on premises producing over £1 per week, to 12·2 per cent. on properties rented for £1 and under. The reduction represented, in the aggregate, a sum of £30 2s. 3d. per week, or 2s. 1½d. per dwelling per week.

In seven cases the rents were increased, viz., three by 1s. per week, one by 2s., two by 2s. 6d., and one by 4s. 6d.

COST OF LIVING.

The rapid increase in the cost of living during recent years has engaged public attention throughout the world, and official investigations relating to this subject have been conducted in Great Britain, the United States of America, Canada, Germany, France, and other European countries, as well as in Australia and New Zealand.

Particulars given above in connection with the food supply of Sydney show that the prices of various food commodities have increased considerably in New South Wales during the past decade, the increase being more pronounced since the outbreak of war.

An important decision relating to the cost of living was given in February, 1914, in the Court of Industrial Arbitration of New South Wales, where an inquiry was conducted in order to obtain an authoritative declaration as to the living wage to serve as a basis of awards of wages by the Wages Boards.

The living wage was defined as the standard wage which will do neither more nor less than enable a worker of the class to which the lowest wage would be awarded, to maintain himself, his wife, and two children—the average dependent family—in a house of three rooms and a kitchen, with food, plain and inexpensive, but quite sufficient in quantity and quality to maintain health and efficiency, and with an allowance for the following other expenses:—fuel, clothes, boots, furniture, utensils, rates, life insurance, savings, accident or benefit societies, loss of employment, union pay, books and newspapers, train and tram fares, sewing machine, mangle, school requisites, amusements and holiday, intoxicating liquors, tobacco, sickness and death, domestic help, unusual contingencies, religion or charity.

The evidence placed before the Court included statistical information supplied by the Government Statistician, budgets collected by employers and employees, municipal records, and returns supplied by house and estate agents. The decision of the Court was that the living wage in Sydney, calculated on the basis shown above, was not more than £2 8s. per week.

The weekly expenditure was apportioned amongst the various items as follows:—Food and groceries, £1 2s. ; rent, 12s ; other expenditure, 14s. ; total, £2 8s.

On the 17th December, 1915, a further pronouncement concerning the living wage was made by Mr. Justice Heydon in the Court of Industrial Arbitration, wherein the view was expressed that the minimum wage for ordinary labourers should be 1s. 1½d. per hour, or 8s. 9d. per day, or £2 12s. 6d. per week

This judgment was further amended on the 20th August, 1916, when the Judges of the same Court fixed the minimum living wage at £2 15s. 6d. per week, an advance of 3s. on the previous award, which in its turn was 4s. 6d. above that fixed in February, 1914.

As a result of comparisons of inquiries as to the cost of living in several countries, it has been estimated that the salary of a typical worker's family of two adults and two dependent children is spent in the following proportions:—

Food and groceries	46 per cent.
Rent	25 „ „
Clothing	13 „ „
Fuel and light	5 „ „
Miscellaneous	11 „ „
Total	100 per cent.

Applying these percentages to the £2 15s. 6d. living wage, the average amounts spent under the several heads would be:—

	£	s.	d.
Food and groceries	1	5	6½
Rent	0	13	10½
Clothing	0	7	2½
Fuel and light	0	2	9½
Miscellaneous	0	6	1
Total	£2	15	6

In the Commonwealth Court of Industrial Arbitration, a judgment given on 20th September, 1916, in the matter of a dispute in the meat industry, the basic living wage was stated as £3 per week. This has since been increased to £3 3s., viz., in a judgment in the case of the Glassfounders' Association, delivered on 9th March, 1917. Later, in awards in cases of Gas Employees, and of Pastoral Employees, 63s. per week was again fixed as the basic wage.

The following table shows the variations in the cost, in Sydney, of food and groceries since July, 1914, the month before the outbreak of war. The prices in July, 1914, are taken as a basis and called 100, and the 41 commodities for which the price levels are computed are those in every-day

consumption. In the statement meat is distinguished from other food and groceries, and the two groups are combined :—

Month.	Meat.	Other food and Groceries.	Meat, other food and groceries combined.	Month.	Meat.	Other food and Groceries.	Meat, other food and groceries combined.
1914.				1916.			
July ...	100	100	100	January...	155·0	119·8	128·8
August ...	98·9	100·1	99·8	February	162·0	122·6	132·8
September	97·1	99·0	98·5	March ...	167·2	118·8	131·3
October ...	98·5	98·0	98·1	April ...	165·7	116·7	129·3
November	95·3	97·2	96·7	May ...	166·4	118·6	131·0
December	99·7	103·7	102·7	June ...	167·6	118·7	131·3
1915.				July ...	170·6	120·7	133·6
January ...	107·1	104·2	104·9	August ...	166·1	119·6	131·6
February...	106·1	103·3	104·0	September	166·2	119·5	131·6
March ...	107·3	105·2	105·7	October ...	164·1	118·9	130·6
April ...	113·8	106·2	108·2	November	161·4	121·2	131·6
May ...	128·6	106·1	111·9	December	163·1	119·9	131·0
June ...	140·8	109·4	117·5	1917.			
July ...	158·1	116·0	126·9	January...	165·7	119·4	131·3
August ...	178·9	125·2	139·1	February	170·4	121·1	133·8
September	166·8	121·5	133·2	March ...	170·8	121·6	134·3
October ...	160·1	124·7	133·8	April ...	171·0	122·2	134·8
November	144·3	121·3	127·3	May ...	162·4	122·0	132·4
December	153·5	121·8	130·0	June ...	158·8	122·1	131·6
				July ...	162·5	121·6	132·1

From the above table it will be seen that the effects of the war were not felt by housekeepers until early in 1915, and since that time the levels have tended upwards, except where seasonal variations occurred in prices of commodities.

The following statement shows the extent to which the war has affected the prices of the principal articles of food in other countries: the figures have been obtained from British and Canadian Official Labour Gazettes :—

Country.	Increase in Prices of Food and Groceries from July 1914 to—			Country.	Increase in Prices of Food and Groceries from July 1914 to—		
	July, 1915.	July, 1916.	January, 1917.		July, 1915.	July, 1916.	January, 1917.
	per cent.	per cent.	per cent.		per cent.	per cent.	per cent.
<i>New South Wales</i> ...	27	34	31	Holland ...	30	50	65
Australia	30	30	25	Denmark ...	28	46	82
United States ... ()	1	9	25	Sweden* ...	30	51	85
New Zealand..	12	19	27	United Kingdom..	32	61	87
Canada ...	5	14	38	Norway* ...	19	169	104
Italy ...	20	32	44	Germany (Berlin)	70	118	111†
Switzerland ...	19	40	45†	Austria (Vienna)..	79	121	172

* Includes fuel and light.

† December, 1916.

‡ November, 1916.

The comparison shows that the prices have risen considerably in all the countries enumerated, the lowest increases being in Australia and in the United States. New South Wales is fourth on the list, being somewhat higher than New Zealand, and the Commonwealth as a whole; the highest increases have occurred in Austria and Germany.

It must be borne in mind that the price levels quoted above in regard to New South Wales relate to food and groceries only, and in estimating the increased cost of living the percentages must be applied only to that proportion of the total family expenditure which is expended on food and groceries, and not to the total family expenditure.

In order that the increase in the cost of living may be studied further, particulars are given below showing the advance since 1911, which year may be considered to represent a fair average for the previous decade. The same procedure has been followed as in the case of the table relating to the war period, except that the prices used are the average of the twelve monthly figures during each year. The basis of the table is the year 1911, the price-level for which is called 100.

The figures are based on Sydney prices; but, in the light of several special investigations into the cost of living in certain country towns as compared with Sydney, it may be assumed safely that a corresponding relative increase has occurred in country towns where no abnormal conditions prevail.

Columns are included showing the fluctuations in rents, also the price levels of food, groceries, and rent combined.

Year.	Meat.	Other Food and Groceries.	Meat, other Food and Groceries combined.	Rent.	Food and Rent combined.
1911	100	100	100	100	100
1912	113·0	113·9	113·7	108·8	111·5
1913	114·8	106·2	108·0	114·7	111·0
1914	136·6	107·2	113·4	117·6	115·3
1915	196·0	121·7	137·2	111·7	125·8
1916	232·5	127·9	149·7	111·7	132·7

From the figures given in this and preceding tables, it will be seen that the great increase in the cost of living in recent years is due, in a large measure, to the price of meat, which, in five years, increased by 133 per cent.

In order to demonstrate the effect of the increased prices in relation to the amount consumed, the weekly food bill of a family of five persons for the principal commodities in 1911 and 1916 is shown below. The statement

is based upon the average rate of consumption as shown on a previous page, except in the case of flour and sugar, where allowance has been made for the quantities included in bread, jam, &c.:—

Article.	Unit of Quantity.	1911.			1916.		
		Weekly Consumption.	Average Price.	Weekly Cost.	Weekly Consumption.	Average Price.	Weekly Cost.
Beef	lb.	13·6	d. 4·1	s. d. 4 7·8	9·5	d. 9·9	s. d. 7 10
Mutton	lb.	9·3	3·3	2 6·7	7·0	7·8	4 6·6
Pork	lb.	·3	8·1	2·4	·2	12·1	2·4
Bacon and Ham	lb.	·8	9·6	7·7	·8	15·1	1 0·1
Fish—fresh, &c.	lb.	·6	8·7	5·2	1·1	10·6	11·3
„ preserved	lb.	·4	9·5	3·8	·5	11·5	5·9
Potatoes	lb.	17·4	·9	1 3·7	14·4	1·3	1 6·7
Flour	lb.	4·0	1·3	5·2	4·0	1·7	6·8
Bread	2lb. loaf	10·0	3·5	2 11	9·2	4·0	3 0·8
Rice	lb.	·8	2·7	2·2	·8	3·2	2·6
Sago and Tapioca	lb.	·2	2·7	0·5	·2	3·2	0·6
Oatmeal	lb.	·7	2·5	1·8	·6	2·8	1·7
Sugar	lb.	6·0	2·7	1 4·2	6·0	3·5	1 9
Jam	lb.	1·6	4·4	7	1·7	6·0	10·2
Butter	lb.	2·5	13·5	2 9·8	2·9	17·3	4 2·2
Cheese	lb.	·3	9·4	2·8	·3	12·1	3·6
Milk—fresh	qt.	6·8	4·3	2 5·2	7·6	5·5	3 5·8
Tea	lb.	·7	15·5	10·9	·7	18·1	1 0·7
Coffee	oz.	1·1	1·1	1·2	1·3	1·1	1·4
Total ... ..	...	...	...	22 3·1	...	...	32 4·4

The weekly expenditure for the commodities enumerated rose from 22s. 3d. to 32s. 4½d., an increase of 45·3 per cent. In spite of the lower rate of consumption, the meat bill increased from 8s. 0½d. to 13s. 7d., while the expenditure on milk and butter rose also, the prices being higher and the consumption greater.

Taking rent into consideration—the averages being 17s. in 1911 and 19s. in 1916—the total weekly expenditure was 39s. 3d. as compared with 51s. 4½d., and the increase per week during the quinquennium amounted to 12s. 1½d., which represents 30·9 per cent.

In the table on p. 997, the price level of food in 1916 is quoted as 49·7 per cent. higher than in 1911, and of food and rent combined as 32·7 per cent. higher; the differences from the increases quoted above, viz., 45·3 and 30·9 per cent. respectively, are due to the fact that in computing the price levels the regimen was assumed to be constant. The difference was most marked in regard to meat, the price level of which increased by 132·5 per cent., but, on account of reduced consumption, the weekly bill was only 69 per cent. higher.

VALUE OF PRODUCTION OF LOCAL INDUSTRIES.

During the year ended 30th June, 1916, the total value of production from the principal industries, reached £87,439,000, which is the highest on record. For many years the pastoral industry was the chief source of the wealth of the State, the production of 1915–16 being £21,576,000. The production from the manufacturing industry has increased very rapidly since 1906, and during the last four years it has exceeded the pastoral, the value in 1915–16 being £24,927,000.

The value of agricultural production during 1915-16 was more than double the value in the previous year, the increase being due mainly to the greatly increased wheat yield.

The following statement shows the estimated value of production of the various industries, at the place of production, at intervals since 1891:—

Value of Production. (*In thousands, 000 omitted.*)

Year.	Pastoral.	Agricultural.	Dairying. *	Poultry, Bees, Rabbits. *	Forestry and Fisheries.	Mining.	Manu- facturing. (Value added to raw materials.)	Total, all Industries.
	£	£	£	£	£	£	£	£
1891	14,725	3,615	2,735	...	758	6,434	7,799	36,066
1896	11,774	5,374	2,546	...	715	4,465	7,302	32,176
1901	12,552	7,060	3,046	...	733	5,681	9,742	38,814
1906	19,743	7,518	3,425	1,693	1,536	7,913	11,906	53,734
1907	22,281	6,588	3,567	1,708	1,382	10,295	13,481	59,302
1908	18,846	8,319	4,064	1,732	1,165	8,384	13,633	56,143
1909	19,040	10,908	3,983	1,990	1,096	7,403	14,536	58,956
1910	21,028	9,493	4,796	2,119	1,108	8,455	16,794	63,793
1911	19,434	9,749	5,215	2,055	1,195	9,410	19,143	66,201
1912	19,440	11,817	5,758	2,089	1,303	11,229	22,464	74,100
1913	20,738	12,378	5,455	2,416	1,400	11,651	23,482	77,520
1914-15	18,848	10,031	6,231	2,301	1,307	9,603	24,011	72,332
1915-16	21,576	20,362	5,473	3,215	1,370	10,516	24,927	87,439

* Poultry and bee farming included with dairying in 1901 and previous years.

The following table shows the equivalent values, per head of population, of the products of local industries at intervals since 1891:—

Year.	Pastoral.	Agricultural.	Dairying. *	Forestry, Fisheries, Poultry, &c. *	Mining.	Manu- facturing.	Total, all Industries.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1891	12 17 10	3 3 4	2 7 11	0 13 3	5 12 8	6 16 7	31 11 7
1896	9 5 4	4 4 7	2 0 1	0 11 3	3 10 4	5 14 11	25 6 6
1901	9 3 8	5 3 4	2 4 7	0 10 9	4 3 1	7 2 6	28 7 11
1906	13 6 0	5 1 3	2 6 2	2 3 6	5 6 7	8 0 5	36 3 11
1907	14 13 7	4 6 10	2 7 0	2 0 8	6 15 8	8 17 7	39 1 4
1908	12 3 10	5 7 7	2 12 7	1 17 6	5 8 6	8 16 5	36 6 5
1909	12 1 5	6 18 4	2 10 6	1 19 2	4 13 10	9 4 4	37 7 7
1910	13 0 2	5 17 6	2 19 4	1 19 11	5 4 8	10 7 10	39 9 5
1911	11 13 6	5 17 2	3 2 8	1 19 0	5 13 0	11 10 0	39 15 4
1912	11 3 8	6 15 11	3 6 3	1 19 0	6 9 2	12 18 5	42 12 5
1913	11 9 3	6 16 10	3 0 3	2 2 2	6 8 9	12 19 7	42 16 10
1914-15	10 2 3	5 7 8	3 6 10	1 18 8	5 3 1	12 17 8	38 16 2
1915-16	11 10 10	10 17 10	2 18 7	2 9 1	5 12 6	13 6 8	46 15 6

* Poultry and bee farming included with dairying in 1901 and previous years.

The exceptionally dry season during 1914-15 caused a relative decrease in all the above industries except dairying, the aggregate value of production showing a decrease on the year 1913 equal to £4 0s. 2d. per head of population. But in 1915-16 all the industries except dairying showed an increased value per head, especially agriculture, which advanced to £10 17s. 10d., as compared with £5 7s. 8d. in the previous year.

The following table shows the total value of production in various years, from 1871 onwards, and the resultant return per head of population :—

Year.	Value of Production.		Year.	Value of Production.	
	Aggregate (,000 omitted).	Per head of Population.		Aggregate (,000 omitted).	Per head of Population.
	£	£ s. d.		£	£ s. d.
1871	15,379	30 5 3	1909	58,956	37 7 7
1881	25,180	32 18 3	1910	63,793	39 9 5
1891	36,066	31 11 7	1911	66,201	39 15 4
1901	38,814	28 7 11	1912	74,100	42 12 5
1906	53,734	36 3 11	1913	77,520	42 16 10
1907	59,302	39 1 4	1914-15	72,332	38 16 2
1908	56,143	36 6 5	1915-16	87,439	46 15 6

These figures show that since 1871 the aggregate value of production has increased by 72 million pounds, and the value per head of population, by £16 10s. 3d. From the primary industries alone the return in 1915-16 was £62,512, equal to £33 8s. 10d. per head. The figures afford ample justification for the investment of the capital which has secured such results.

Variations in prices, due mainly to causes beyond local control, and to the general conditions of the season, are the most powerful factors in regulating the volume and value of production; but making due allowance for these factors, the steady advance made throughout the period covered by the figures given above is ample testimony to the wealth of the State, and an assurance of the prosperity of its future.

LOCAL GOVERNMENT.

LEGISLATION passed in the years 1905 and 1906 gave the State of New South Wales full local government, except in the Western Division, where, however, there are a few municipalities which were incorporated under the Municipalities Act of 1897.

The Act of 1842, by which the City of Sydney was incorporated, was the first provision in this State for conferring municipal privileges. In 1843 a further step was taken by the incorporation of Campbelltown, Appin, Camden, Narellan, and Picton as one district council, which was subdivided into three, during the same year, by the formation of Campbelltown and Appin into separate councils.

In 1844 the number of country district councils had increased to eight, and these, in conjunction with the Municipal Council of Sydney and the Road Trusts, subsequently established, constituted the whole of the local government system prior to 1858, in which year the first important measure relating to general municipal Government was enacted. That Act dissolved the district councils, and placed the areas under municipal bodies; and under it thirty-five districts were incorporated, which, with the exception of Cook, joined in 1870 to Camperdown (now a ward of the City of Sydney), and East St. Leonards and Victoria (united to St. Leonards to form North Sydney), still exist, although the boundaries have been altered.

The municipal council was elected by the ratepayers, and its most important functions were to make by-laws for the general government of the municipality, to control roads, bridges, and ferries, and to remove nuisances. The general rate was limited to one shilling in the £ on the annual value of ratable property, but a special rate for water supply, sewerage, and street lighting was permissible. Endowment by the Government was provided during a term of fifteen years, based on the amount of general rates actually collected. No district, however populous, was obliged to become incorporated; and it was only on the presentation of a petition, signed by at least fifty of the prospective ratepayers, and containing a larger number of signatures than those attached to any counter petition, that a municipality could be formed.

The Act of 1858 was repealed by the Municipalities Act of 1867. Under the new Act the existing municipalities were continued as boroughs, and all areas incorporated in the future were to be classified either as boroughs or municipal districts. Boroughs might include any city, town, or suburb of the metropolis, or any country district with a population exceeding 1,000 persons and an area not less than 9 square miles. Municipal districts might include any area not containing a borough, with a population not less than 500 and an area not more than 50 square miles. The powers of the

councils were extended slightly, and the rating power remained as before. It was left optional for any district to become incorporated, and consequently local government was not generally adopted.

The Municipalities Act of 1897 consolidated the previous Acts and Amending Acts, but did not alter their principles. The voluntary principle of incorporation which was retained, was not conducive to the adoption of a general system of local government, as it was natural that, so long as the central Government continued to construct local works, the persons benefited would submit to the absence of local management of their affairs.

The Local Government (Shires) Act, 1905, provided for the compulsory division of the State into local government areas, called shires. The city of Sydney and existing municipalities, the whole of the Western Division, the Quarantine Station, Lord Howe Island, and the islands in Port Jackson were excepted from its operation. The Act provided for the payment of a sum not less than £150,000 annually, as endowment from the Consolidated Revenue Fund, in the following proportions, viz.:—First-class shires, from nil up to 10s. per £; second-class, 15s. per £; third-class, 20s.; fourth-class, 25s.; fifth-class, 30s.; and sixth-class, 40s. or more. These endowments were made payable on the amount of general rates received during the preceding year, the amount of endowment being fixed triennially, according to the area, revenue, and expenditure of the shires.

The councils were authorised to exercise the following powers:—The care, control, construction, fencing, and maintenance of all public places, except those vested in the Railway Commissioners, or other public bodies or trustees, and except national works; regulation of traffic; street and road lighting; prevention of bush fires; flood relief and prevention; construction and maintenance of streets, jetties, wharfs, and buildings for the transaction of business; and the administration of the Impounding and Public Watering Places Acts. The right was given to acquire other powers, such as the prevention of nuisances; water supply; regulation and licensing of public vehicles and hawkers; management of parks and commons; and the administration of the Public Gates Act and the Native Dog Destruction and Poisoned Baits Act.

The Act also provided for the division of the shires into ridings, each riding having equal representation on the council, and triennial elections were prescribed. All owners and occupiers of ratable property of annual value not less than £5, over 21 years of age, male and female, unless not naturalised, were entitled to be entered on the electors' roll, any male person enrolled being qualified for nomination as a councillor. The usual conditions as to disqualification were provided, and the penalties for acting while not properly qualified.

Under an important provision in the Act rates were charged on the unimproved value of the land, and not on the annual rental. The rate levied could be not less than 1d., nor more than 2d. in the £, unless the minimum rate was more than sufficient to meet the requirements of the shire, in which case a rate of less than 1d. might be levied by permission of the Governor. The ratable value of coal-mines was fixed at 50 per cent. of the gross value of the average annual output for the preceding three years, and of other mining properties at 40 per cent. for the same period. Another important feature of the Act was the provision for suspending the operation of the State land tax when the council had imposed a rate of 1d. in the £ on the unimproved capital value. Commons, public reserves and parks, cemeteries, public hospitals, benevolent institutions, churches and other

buildings used exclusively for public worship, free public libraries, and unoccupied Crown lands were exempted from taxation.

In 1906 a very comprehensive measure, the Local Government Extension Act, was passed by Parliament. The first important provision of this Act is for the establishment of cities; the Governor is authorised to proclaim as a city, any municipality which has had during a period of five years a population exceeding 20,000 persons and a revenue of £20,000, and which is an independent centre of population. During the year 1907 Broken Hill was proclaimed a city, and is the only municipality which has taken advantage of the Act in this respect.

It was also enacted that all municipalities not receiving statutory endowment under the existing Act, if found on investigation to be in necessitous circumstances, should be entitled to a sum not exceeding 3s. 4d. in the £ on the general rate collected; but if the revenues were sufficient to meet the reasonable requirements under proper management of the corporations, endowment would not be paid. When, however, the estimated responsibility for expenditure (transferred with the land tax) exceeds the amount of the suspended tax, the amount of 3s. 4d. in the £ may be increased, provided that the endowment be not greater than the excess of that expenditure.

The rates are levied on the unimproved value, at a minimum amount of 1d. in the £, but if this rate proves more than sufficient to meet the requirements of the municipality, it may be reduced. Having levied the general rate of 1d. on the unimproved value, a council is empowered to impose, either on the improved or on the unimproved value, such additional rate as may be required. Special, local, and loan rates may be imposed on the improved or unimproved value, at the option of the council. The conditions as to ratable value and the franchise of electors are similar to those of the Local Government (Shires) Act.

Other important provisions are the power to borrow up to 10 per cent. of the unimproved value, such loans to be guaranteed by the Government; redistribution and reconstruction of existing areas, so that the municipalities might form portions of shires; acquisition of land and works; control of cattle-slaughtering and public health; dealing with noxious animals and plants; safety of the public; regulation of hoardings and other structures; the appointment of auditors, and the inspection of accounts by Government examiners. The Governor is authorised to proclaim any park, road, bridge, or other public work as a national work to be maintained by the State, but which may be handed over to the council at any time.

LOCAL GOVERNMENT ACT, 1906.

The Local Government Act, 1906, deals fully with both shires and municipalities, and came into operation on 1st January, 1907, as regards shires, and on 1st January, 1908, as regards municipalities. It repeals the Local Government (Shires) Act, 1905, and the Local Government Extension Act, 1906, and consolidates their provisions. Under an amending Act passed at the end of 1908, councils must cause a valuation of all ratable land to be made at least once in every three years, provided that they may adopt for any period the whole or any part of the valuations in force at the close of the preceding period.

Prior to the inception of the Local Government Act, 1906, a very small portion of the State had been incorporated, as will be seen in the statement

below, which gives the area incorporated and unincorporated in 1906 in the three great land divisions of the State, exclusive of the Federal Territory:—

Division.	Incorporated.	Unincorporated.	Total.
	sq. miles.	sq. miles.	sq. miles.
Eastern	1,932	92,881	94,813
Central	571	88,579	89,150
Western	282	125,216	125,498
Total	2,785	306,676	309,461

On 31st December, 1915, the area incorporated, excluding Lord Howe Island and the federal territory of Canberra and Jervis Bay, was as follows, the only part of the State unincorporated being that portion of the Western Division not included in municipalities. The population in the different groups is also given:—

	Area (sq. miles).	Population.
In Metropolitan Municipalities... ..	149	748,940
In Country Municipalities	2,764	456,000
In Shires	180,655	647,570
Total (incorporated)... ..	183,563	1,852,510
Western Division (portion unincorporated) ...	125,893	17,905
Total	309,461	1,870,415

GREATER SYDNEY.

The amalgamation of the metropolitan municipalities is a question which has attracted considerable attention, and various schemes have been suggested. Particulars relating to proceedings and results of Select Committees and Royal Commissions which have considered the question of Greater Sydney will be found in the preceding issue of this publication.

CITY OF SYDNEY.

The City of Sydney was incorporated on 20th July, 1842, under the Sydney Municipal Council, the election of aldermen taking place on the 9th November. The city was originally divided into six wards, but at a subsequent adjustment the number was increased to eight.

Great dissatisfaction soon arose as to the manner in which the affairs of the Corporation were conducted. A Select Committee of the Legislative Council was appointed in 1849 to inquire into the matter, and reported in favour of the abolition of the Municipal Council, with a recommendation that its powers should be vested in three Commissioners. This was not carried into effect until 1853, when the Corporation was dissolved, and its authority was transferred to a commission of three persons, who administered the affairs of the city from the beginning of 1854 to the end of 1857, when a new Council, consisting of sixteen aldermen—two for each ward, came into existence. By the Sydney Corporation Act of 1879 the number of aldermen was increased to twenty-four, being three representatives for each ward.

In 1900 an Amending Act was passed, dividing the city into twelve wards, each returning two aldermen. The innovation of retiring

the whole of the aldermen simultaneously was introduced, with a provision for the election of a new Council on the 1st December in every second year, re-election of qualified persons being permitted. Important changes were effected under this Act as to the franchise, sub-tenants and lodgers being placed on the rolls, and extended powers were conferred on the Council as to resumption of lands for city improvements.

In 1902 an Act was passed consolidating statutes previously passed in regard to the City of Sydney.

In 1905 an amending Act was passed to provide for the better government of the city, especially with regard to the control of hoardings, the proper cleansing of footways, the prevention or regulation of the smoke nuisance from furnaces and chimneys, the regulation and control of refreshment stalls and stands, the control of juvenile hawkers and shoeblacks, the prevention of betting in public places, while the tenure of office of the aldermen was altered to three years.

The Municipality of Camperdown was amalgamated with the City of Sydney as from 1st January, 1909, and the Council now consists of twenty-six aldermen elected every third year by thirteen wards. The Lord Mayor is elected by the aldermen from their own number, but under an Act passed in 1916, in the event of an equal number of votes being polled, the Governor in Council may appoint one of the aldermen to the position. The Act also regulated the election of the city members of the Metropolitan Board of Water Supply and Sewerage, and of the Fire Brigades Board, and extended the power of the Council as regards resumptions, in order to provide workmen's dwellings, and further provision was made for the extension of the city boundaries.

In 1908 a further Amending Act was passed, containing several important provisions. Commencing with the year 1909, the Council was compelled to levy a rate, not less than 1d. in the £, upon the unimproved capital value, in addition to any rate imposed under the Act of 1902. Under the former Act the rate levied in 1915 was 1½d. in the £, and under the latter 2½d. in the £ on the assessed annual value. It is provided, however, that the total amount leviable shall not exceed the amount which would be yielded by a rate of 3d. in the £ on the unimproved capital value, and 2s. in the £ on the average annual value, taken together, of all ratable property. On the Council imposing such rate on the unimproved capital value, the State land tax is suspended automatically. The valuation of the unimproved capital value is to be made at least once in every five years. The Council was empowered also to establish public libraries and milk depôts, to control certain parks, and to widen certain streets. The Lending Branch of the Public Library, and various parks and public ways were vested in the Council by the Government under certain conditions.

The Sydney Corporation (Dwelling-houses) Act, 1912, enables the City Council to erect and let dwelling-houses, and for that purpose to acquire land.

Another amending Act, passed in April, 1916, empowers the Council to levy rates on persons owning pipes, wires, cables, and rails on, under, over, or through any public places under the control of the Council, excepting properties owned by the Crown. Also, under the same Act, the Sydney Council may levy a general rate, not exceeding 6d. in the £, on the unimproved value of all ratable property in the city. This Act amends the 1908 Act so far as the latter relates to the land tax on the unimproved capital value and the city rate on the assessed annual value.

RATINGS.

The Sydney Corporation Act of 1902 directs that improved property within the city shall be assessed at a fair average annual value, with an allowance for outgoings not exceeding 10 per cent., and the unimproved property at a maximum of 6 per cent. on its capital value; and on the value of such assessment a city rate not exceeding 2s. in the £ may be levied, exclusive of lighting. The rate stood at 16d. from 1891 to 1899, but was increased to 18d. for 1900, and 24d. for 1901. In 1902, it was reduced to 22d., and still further reduced to 21d. in 1903, which was also levied from 1904 to 1915. The Act provides for a special local rate not exceeding 6d. in the £ of annual value, for any work which may be for the particular benefit of one locality, but then only if two-thirds of the ratepayers of such locality petition for the same. Occasional advantage of this power has been taken for street-watering, though not of late years, and the amount levied in 1915 covered the expenses of street-lighting and street-watering.

The other municipal councils were formerly empowered to raise revenue by rates not exceeding 1s. in the £ for ordinary purposes and the same amount for special purposes, with 6d. in addition for street-watering. The amount of each rate was calculated upon nine-tenths of the fair average annual rental of all buildings and cultivated lands, or lands let for pastoral, mining, or other purposes, and upon 5 per cent. of the capital value of the fee-simple of all unimproved lands.

Municipalities which avail themselves of the provisions of the Country Towns Water and Sewerage Act of 1880 are empowered to levy a rate for each service not exceeding a maximum of 10 per cent. on the assessed annual value of land and tenements, in addition to the ordinary municipal rates. Under the Local Government Act, however, a water rate equivalent to this maximum of 10 per cent. on the assessed annual value must be levied either on the unimproved or the improved capital value of lands within the reticulated area.

In order to aid municipalities in their formative stages, the 1867 and Consolidating Acts provided for endowment by the State during a period of fifteen years. In each of the first five years after incorporation, every municipality is entitled to a sum equal to the whole amount actually received from rates; in each of the next succeeding five years, a sum equal to one-half; and in each of the next five years, a sum equal to one-fourth of such receipts. After the expiry of fifteen years, the State assistance ceases, and any further aid from the State is in the nature of a special grant. At the close of the year 1915 there were only six Municipalities entitled to the original statutory endowment.

VALUATIONS.

Property in the City of Sydney was in 1915 rated on the basis of the annual rental value, and the following is a comparison of the capital and annual values in the city during the three years 1913-1915. As previously stated, however, the rating will be on the unimproved value only, in future:—

			1913. £	1914. £	1915. £
Unimproved capital value	...	...	23,837,157	27,395,826	27,226,283
Improved capital value	...	...	64,080,440	75,786,580	78,580,300
Assessed annual value...	...	...	2,753,408	3,271,102	3,391,759

These figures show that the unimproved capital value has increased by 14·2 per cent., and the corresponding increases of the improved capital value and the assessed annual value were 22·6 per cent., and 23·2 per cent. respectively.

Since 1st January, 1908, under the Local Government Act of 1906, suburban and country municipalities have been obliged to levy a general rate on the unimproved capital value of all ratable land, and may levy additional, general, special, local, or loan rates on either the unimproved or the improved capital value. The only rates based on the annual value are those charged by the Metropolitan and the Hunter District Water Supply and Sewerage Boards.

The unimproved capital value of land is the amount for which the fee-simple estate in such land could be sold under such reasonable conditions as a *bonâ-fide* seller would require, assuming that the actual improvements had not been made.

The improved capital value is the amount for which the fee-simple estate of the land, with all improvements and buildings thereon, could be sold.

The general rate must be not less than 1d. in the £ on the unimproved capital value of all ratable land, and the total amount to be derived from the general rate and additional rates taken together must not exceed the amount yielded by a rate of 2d. in the £ on the unimproved value and 2s. in the £ on the assessed annual value of all ratable land. In 1915 only eleven municipalities levied additional general rates, the remainder confining themselves to one general rate. The variation in the rates is rather remarkable, as in the suburbs of Sydney for 1915 they ranged from 2½d. to 5½d., and in the country from 1d. to 12d. The following general rates were struck for the years 1914 and 1915:—

General Rate Levied.	1914.		1915.	
	Suburbs of Sydney.	Country.	Suburbs of Sydney.	Country.
1d. and under 2d.... ..	.....	15	.. ...	13
2d. ,, 3d.... ..	2	19	2	18
3d. ,, 4d.... ..	6	38	6	45
4d. ,, 5d.... ..	24	46	23	39
5d. ,, 6d.... ..	8	15	9	18
6d. and over ... ..	.....	12	.....	12
Total	40	145	40	145

The majority of suburban councils in 1915 levied general rates between 4d. and 5d., the next in number being between 5d. and 6d. In the country the proportions were different, as the municipalities charging 3d. to 4d. per £ were in the majority, closely followed by those from 4d. to 5d. The councils which levied 6d. and over in the £ during 1915 were Aberdeen, Bathurst, Braidwood, Hillgrove, Murrurundi, Singleton, and Warialda, each 6d.; Scone, 6½d.; Lambton, 7d.; Broken Hill, 8½d.; Bourke, 10½; and Wrightville, 12d. These rates are exclusive of the amounts levied on mines. None

of the suburban councils levied 1d. in the £; but this rate was imposed in four country municipalities.

One hundred and eight municipalities levied special, local, and loan rates on the unimproved capital value, ranging from $\frac{1}{30}$ d. to 12d. in the £, and thirty-three on the improved capital value, ranging from $\frac{1}{4}$ d. to 3d. in the £.

In the following table the unimproved and improved values for 1914 and 1915 are compared:—

Division.	Unimproved Value.			Improved Value.		
	1914.	1915.	Increase, 1915.	1914.	1915.	increase, 1915.
	£	£	per cent.	£	£	per cent.
Sydney—City ...	27,395,826	27,226,283	0·6	75,786,580	78,580,300	3·7
Suburbs ...	31,979,553	33,403,223	4·5	82,978,113	91,198,244	9·9
Metropolis ..	59,375,179	60,629,506	2·1	158,764,693	169,778,544	6·9
Country ...	22,573,671	22,843,195	1·2	55,682,063	57,949,558	4·1
Total ...	81,948,850	83,472,701	1·9	214,446,756	227,728,102	6·2

The difference between the unimproved and improved capital values is, of course, the value of improvements, and the following statement shows that in both the suburbs and country the value of improvements increased in 1915:—

Division.	Value of Improvements.		
	1914.	1915.	Increase.
	£	£	per cent.
Sydney—City ...	48,390,754	51,554,017	6·1
Suburbs ...	50,998,760	57,795,021	13·3
Metropolis ...	99,389,514	109,149,038	9·9
Country ...	33,108,392	35,106,363	6·0
Total ...	132,497,906	144,255,401	8·9

The unimproved capital value of ratable land in municipalities is £83,472,000, and in shires £104,746,000, the total being £188,218,000. If to this be added £10,000,000, the estimated unimproved value of unincorporated land in the Western Division, the unimproved value of the land of the State, excluding a small area exempt from taxation, is £198,218,000. The value placed upon land in the Western Division is 2s. 6d. per acre, which is over 25 per cent. lower than in the shire in the west of the Eastern Division, with the lowest value per acre, and cannot be considered high.

The value of improvements in municipalities was £144,255,000, or 173 per cent. of the unimproved value. The value of improvements is not available for all the shires, but it has been assumed that it is the same proportion of the unimproved value as the average in those which are known, namely, about 25 per cent. greater than the unimproved value. In the Western

Division it may be placed at £10,000,000, so that for the whole of the State the following values for 1915 are obtained:—

Division.	Unimproved Value of Land.			Value of Improvements.		
	Total.	Per Head.	Per Acre.	Total.	Per Head.	Per Acre.
	£	£	£ s. d.	£	£	£ s. d.
Sydney—City ...	27,226,000	261	8,183 7 0	51,354,000	493	15,435 10 7
Suburbs ...	33,403,000	52	363 6 11	57,795,000	90	628 13 5
Metropolis ...	60,629,000	81	636 9 4	109,149,000	146	1,145 16 3
Country Municipalities	22,843,000	50	12 18 3	35,106,000	77	19 16 10
Shires ...	104,746,000	162	0 18 1	130,932,000	202	1 2 8
Western Division (part unincorporated).	10,000,000	559	0 2 6	10,000,000	559	0 2 6
State ...	198,218,000	106	1 0 0	285,187,000	152	1 8 10

FINANCES.

The Local Government Act, 1906, prescribes that there must be a general fund in each local governing area, to which must be paid the proceeds of all general and additional general rates, moneys received by way of grant, endowment, &c., from the Government, and miscellaneous income not required by law to be carried to other funds. The expenditure from the general fund must be on administration, health, roads, and other public services.

In addition, there must be a special fund for each special rate levied, and for each work or service carried on by the council in respect of which the special rate has been made, and the fund may be used only for the purposes of such work or service. A local fund also must be kept for each local rate levied, with restrictions similar to those in the case of special funds. The expenditure of the local fund is restricted to works in the specified portion of the area.

Where any borrowed money is owing by a council, a separate loan account must be kept for each work or service on which the amount has been spent. If the Loan fund has no revenue from rates, the attendant obligations, such as provision for the repayment of principal and interest, may be met by transfers from the General fund or other appropriate fund. The object of the loan, as a rule, determines the source from which the Loan fund shall obtain its necessary revenue. When the loans have been raised for general purposes, transfers are made from the General fund, and the profits of trading concerns provide for the disbursements of their corresponding loan funds.

The foregoing remarks have reference more particularly to those loan funds which must be kept in respect of loans raised before the present Act came into operation, that is to say, when the law did not require (as it does now) a loan rate to be levied to pay interest and provide for the extinction of each loan within a fixed period. It is apparent, therefore, that all new loans will be self-supporting, quite apart from the question whether the undertakings are profitable or not. In these latter cases the councils may either use profits to swell the amount which is being provided for repayment, or retain them in the working accounts of the Special, Local, or Trading Funds.

The revenue of special and local funds may be used in a similar manner; for example, the Street Lighting Special Fund must provide the money to meet not only the ordinary cost of maintaining the street lighting for the

year, but also the obligations of the Street Lighting Loan Fund; and similarly with regard to Sewerage, Water Supply, and other Special and Loan Funds.

The Regulations under the Act prescribe the system of accounts to be adopted. The accounts must be "Income and Expenditure Accounts," kept by double entry, and each "Fund" must have a separate banking account. Thus there is shown for each General, Special, Local, Loan or Trading Fund a Revenue Account, or Profit and Loss Account, giving the total expenditure chargeable for the period, whether paid or unpaid, and the total income for the same period, whether received or outstanding. A balance-sheet is also required for each fund with appropriate liabilities and assets. Only "realisable" assets may be shown, so that the whole of the roads, bridges, drains, and other constructive work, are excluded.

CITY OF SYDNEY ACCOUNTS.

The Council of the City of Sydney conducts its affairs under the City Corporation Act, and therefore is not bound by the provisions of the Local Government Acts. The various accounts of the city were formerly kept on a "cash" basis, except those relating to the Electricity Fund, but from the year 1913 the system has been altered, and the Revenue and Capital transactions shown separately in the same manner as those of all other Local Bodies. As details cannot in many instances be allocated to the headings of expenditure and income as set out in the system of accounts prescribed under the Local Government regulations, it is obvious, when discussing the financial transactions of the whole municipal area of the State, that an endeavour to collate similar information from two different sources would serve no useful purpose, and the figures for statistical comparison would be of doubtful value. For these reasons, the following particulars relating to municipal accounts are divided into two parts, one dealing with the City of Sydney, and the other with the suburbs of Sydney and country municipalities.

City of Sydney—Receipts.

The receipts from the various funds, exclusive of the Electric Lighting Fund, in 1915, amounted to £686,588, the City Fund contributing £541,194, the Public Markets Fund £69,924, and the Resumption Account £75,470.

The total receipts exceeded the disbursements by £40,197. Although abstracts of receipts and disbursements in respect of the Public Markets Fund and the Resumption Account are shown separately in the city accounts, these funds are really subsidiary to the City Fund, their balances at the end of the year being transferred to the last-mentioned fund.

The following is a statement of the receipts of the City Fund under appropriate headings:—

	£
General Purposes	466,485
Works	5,649
Health Administration	15,303
Public Services... ..	33,141
Municipal Property	10,739
Miscellaneous	9,877
Total	£541,194

City rates, £295,529, together with land tax, £168,703, form by far the greater part of the receipts under the heading "General Purposes." As provided by the amending Act of 1908, rating on the unimproved value of land was first brought into force in 1909, and that such a large amount

should be realised with the minimum rating of 1d. in the £ shows the importance to be attached to the acquisition of the transferred State Land Tax as an addition to the city finances.

City of Sydney—Disbursements.

The disbursements in 1915 amounted to £646,391, viz.: City Fund, £442,303; Public Markets Fund, £76,640; and Resumptions Account, £127,448. Shown under the same headings as the receipts, the following were the disbursements of the City Fund:—

	£
General Purposes	45,992
Works	97,534
Health Administration	122,135
Public Services..	69,494
Municipal Property	15,246
Miscellaneous (Interest, Sinking Fund, &c.) ...	91,902
Total	£442,303

Salaries, which amounted to £33,077, absorbed a very large share of the expenses for General Purposes. Of the sum spent on Public Works, street maintenance accounted for £51,258, footpaths for £23,387, and wood-paving for £11,480. On city cleansing £88,454 was expended, and this was the main item in Health Administration. The large amount shown under "Miscellaneous" includes the Annual Debenture indebtedness, which in 1915 was £53,868 for interest, commission, &c., and £17,011 for Sinking Fund contributions.

The receipts and disbursements of the Public Markets Fund, as stated, were £69,924 and £76,640 respectively, showing a deficit of £6,716 on the year's transactions, which has been included in the City Fund. The Queen Victoria Markets brought in revenue to the extent of £17,793, or about 25 per cent. of the total; and the receipts from the Municipal Markets amounted to £23,410, or slightly more than one-third of the whole.

The receipts and disbursements of the Resumption Account were £75,470 and £127,448 respectively, showing a deficit of £51,978, which was transferred to the City Fund.

The next account to be considered is the Electricity Works Fund, and the expenditure and income for the year ended 31st December, 1915, are shown below:—

Expenditure.				Income.			
		£				£	
Generation of Electricity ...	71,188			Private Lighting	204,717		
Distribution	59,000			Public Lighting	43,928		
Management	36,772			Power Supply	123,920		
Bad debts written off	558			Rentals—Meters, Motors, Lamps, &c.	15,444		
Total	£167,518			Miscellaneous	550		
Balance carried to Net Revenue Account	221,041						
Total	£388,559			Total	£388,559		

Generation forms the largest item of expenditure, accounting for 42·5 per cent. of the whole. Distribution cost 35·2 per cent., Management 22·0 per cent., and Bad Debts written off 0·3 per cent.

The sales of current to the public for light and power amounted to £344,080, and the sales to the Council realised £28,485.

The charges against the gross profit of £221,041 carried to the Net Reserve Account were:—Interest on Debentures and Overdraft, £73,709; Sinking Fund contribution, £15,776; Depreciation Reserve Account, £62,135; Loss during transfer, £813; and written off, flotation expenses, &c., £3,849, making a total of £156,282. It will be seen from the foregoing that the net gain for the year, after paying interest and Sinking Fund, was £64,759, which, added to the net profit from 1914, viz., £2,681, gives a total of £67,440 credited to profit and loss at the end of 1915.

Below is a summary of the balance-sheet of the Electricity Works Fund on 31st December, 1915:—

Liabilities.		Assets.	
	£		£
Debenture Loans...	1,879,500	Capital Expenditure — Land,	
Sinking Fund ...	93,505	Buildings, Machinery, Plant,	
Reserve and Suspense Accounts	355,553	&c. ...	2,301,719
Sundry Creditors...	49,707	Goodwills—Company Purchases	17,180
Deposits (Consumers) ...	11,279	Commonwealth War Loan ...	15,770
Balance—Net Revenue Account	67,440	New South Wales Treasury—	
Bank of New South Wales debit		Sinking Fund Investments ...	77,735
balance ...	187,061	Stores and Materials ...	125,869
		Consumers' Balances ...	67,883
		Other ...	37,889
	£2,644,045		£2,644,045

The Loan Capital, which forms about 71 per cent. of the liabilities, returned about 8 per cent. profit for the year; but consideration of the fact that the interest payments and Sinking Fund contribution for the year amounted to £89,485, that £62,135 was allowed for depreciation, and that the Sinking Fund is represented by an investment of £77,735 in Government Stock, will show that the finances of the Sydney Electricity Works Fund are in a healthy condition.

Each year's returns emphasise the rapid and at the same time profitable expansion of the electric lighting undertaking. The lights were used for the first time on 8th July, 1904, when parts of the city were illuminated, and since that date great progress has been made, and the public parks, as well as the remainder of the streets under the control of the council, are now included.

The following is a Summary of Liabilities and Assets of all funds of the City of Sydney as at 31st December, 1915:—

Liabilities.		Assets.	
	£		£
Debentures current ...	6,715,100	Bank Balances, Cr. ...	391,190
Bank Balances, Dr. ...	338,625	Landed Properties, Baths, and	
Sundry Creditors ...	446,102	Sundries ...	5,352,281
Sinking Funds ...	550,633	Machinery, Plant, Furniture,	
Reserves, Revenue Accounts, and		Stores, &c. ...	2,074,512
Sundries... ..	827,393	Sundry Debtors ...	185,342
		Sinking Funds ...	549,843
		Other Investments ...	376,800
		Flotation Expenses and Sundries	135,464
	£8,877,853	Revenue Accounts ...	58,693
Excess of Assets ...	£246,272		£9,124,125

Notwithstanding the large Loan indebtedness the assets exceed the liabilities by £246,272. It should be noted that the Debentures include £1,879,500 borrowed in connection with Electric Lighting, and £1,013,800 for Public Markets, and as the proceeds of those loans have been spent on reproductive municipal works, such works should provide the annual interest charges and sinking fund contributions. It follows that "rate" revenue is relieved to the extent that annual liabilities of this nature are so liquidated. The Electricity Works Fund is quite self-supporting; but the deficiency in the Public Markets Fund becomes a charge on the city rates. Landed properties, baths, &c., which comprise about 60 per cent. of the assets, include such large items as Public Markets, £1,286,622; Town Hall, &c., £768,081; Resumptions, £2,437,161; Electric Light Buildings, Works, &c., £387,689. The accumulated Sinking Fund, £550,633, as against a Debenture Debt of £6,715,100, must be regarded as a satisfactory cover.

PROGRESS OF SYDNEY.

The following table shows the progress of the City of Sydney during the last five years:—

Particulars.	1911.	1912	1913.	1914.	1915.
Area Acres	3,327	3,327	3,327	3,327	3,327
Population No.	118,800	116,400	115,900	110,700	104,200
	£	£	£	£	£
Unimproved Capital Value	23,940,030	23,988,480	23,837,157	27,395,826	27,226,283
Improved Capital Value ...	55,520,640	57,395,288	64,080,440	75,786,550	78,580,300
Assessed Annual Value ...	2,498,429	2,582,788	2,753,408	3,271,102	3,391,759
City Fund—					
Income—Rates	221,450	226,688	242,303	285,024	295,529
Land Tax	98,183	100,267	151,212	170,653	168,703
All other sources	92,085	102,755	61,378	62,255	76,962
Total	411,718	429,710	454,893	517,932	541,194
Expenditure	407,055	444,997	401,373	419,970	442,303
Public Markets Fund—					
Income	38,899	44,639	48,240	52,055	69,924
Expenditure	46,666	60,226	65,230	71,827	76,640
Cattle Sleyards Fund—					
Income	17,315	9,434	*	*	*
Expenditure	8,381	3,780	*	*	*
Resumption Account—					
Income ... ..	.....	.....	112,379	64,098	75,470
Expenditure ... ..	.....	.....	154,948	114,596	127,448
Electricity Works Fund—					
Income	190,289	234,325	301,637	350,146	388,559
Expenditure	161,898	197,253	244,291	287,296	323,800
Total Receipts—All Funds	658,221	718,108	917,149	984,231	1,075,147
Total Disbursements—All Funds	624,000	706,256	865,842	893,689	970,191
Liabilities—All Funds	4,310,441	5,654,811	7,195,657	8,142,616	8,877,853
Assets—All Funds	4,845,111	6,030,411	7,456,660	8,397,918	9,124,125
Loans outstanding	3,870,600	4,977,500	5,627,300	6,163,800	5,715,100
Sinking Fund	303,553	355,524	402,448	471,403	550,633

* Taken over by State Government.

The tendency of a city population, as compared with a suburban, is to decrease as the suburban population increases. Three important factors have combined to make this particularly applicable to Sydney—private enterprise shown by the building of extensive premises designed almost entirely for business purposes, improved facilities for reaching suburban areas by quicker and cheaper means of transport, and perhaps the most important, the council's policy of city improvement by demolishing dilapidated buildings, and opening up new streets, which must force the inhabitants to outlying districts.

EXPENDITURE.

Suburbs of Sydney and Country Municipalities.

The net expenditure during 1915 by the various municipalities under the Local Government Act amounted to £1,706,117, which was £58,770 less than the income. The following statement shows the expenditure allocated to the various funds in 1914 and 1915:—

Funds.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
General Fund	658,585	436,207	1,094,792	724,485	471,801	1,196,286
Trading Accounts	66	91,443	91,509	...	99,723	99,723
Special and Local Funds	51,205	248,719	299,924	57,043	265,018	322,061
Loan Funds	66,100	47,053	113,153	97,332	49,999	147,331
Reserves and Renewals Account	1,223	849	2,072	82	3,162	3,244
Gross Expenditure	777,179	824,271	1,601,450	878,942	889,703	1,768,645
Deduct Transfers... ..	35,762	24,830	60,592	40,589	21,939	62,528
Net expenditure	741,417	799,441	1,540,858	838,353	867,764	1,706,117

The greatest expenditure was naturally from the General Fund, which accounted for 68·0 per cent. of the whole.

The trading concerns of the municipalities are gas and electricity; the special and local funds relate to water supply, sewerage, sanitary and garbage, street-watering, street-lighting, old loans interest, and other miscellaneous matters.

Details of the expenditure from the General Fund are shown below:—

Source of Expenditure.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
General Purposes—						
Rates and interest abandoned	323	616	939	336	269	605
Administrative expenses	54,758	61,326	116,084	55,670	59,693	115,363
Public Works	399,139	236,636	635,775	442,718	265,279	707,997
Health Administration ...	73,811	39,560	113,371	82,180	43,459	125,619
Public Services	91,924	49,894	141,818	102,129	54,405	156,534
Municipal Property	23,448	31,844	55,292	23,446	33,068	56,514
Transfers	13,395	14,233	27,628	15,156	12,560	27,716
Other	1,787	2,098	3,885	2,850	3,083	5,938
Total expenditure	658,585	436,207	1,094,792	724,485	471,801	1,196,286

An amendment of the Local Government Act in 1908 provided that, except when exemption had been granted by the Governor, the cost of night-soil and garbage removal must be paid out of a Special Fund, and not out of the General Fund; and the cost of lighting streets and roads must also be defrayed from a Special Fund. When, however, the whole area of a municipality is within 20 miles of the General Post Office, Sydney, or when the whole area of a municipality is benefited by the expenditure on street lighting, the council, in its discretion, may pay such costs out of the General Fund. The effect of this enactment is reflected clearly in the above figures, which show an increased expenditure on Health Administration and Public Services. The cost of street lighting in the suburbs is met out of the General Fund.

The proportion of expenditure under each head to the total expenditure was as follows:—

Source of Expenditure.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
General Purposes—	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Rates and interest abandoned ...	...	0·1	0·1	...	0·1	0·1
Administrative Expenses ...	8·3	14·1	10·6	7·7	12·6	9·6
Public Works ...	60·6	54·3	58·0	61·1	56·2	59·2
Health Administration ...	11·2	9·1	10·4	11·4	9·2	10·5
Public Services ...	14·0	11·4	13·0	14·1	11·5	13·1
Municipal Property ...	3·6	7·3	5·1	3·2	7·0	4·7
Transfers ...	2·0	3·2	2·5	2·1	2·7	2·3
Other ...	0·3	0·5	0·3	0·4	0·7	0·5
Total ...	100·0	100·0	100·0	100·0	100·0	100·0

In 1915, of the expenditure by municipalities, 9·6 per cent. was on administrative expenses, and 59·2 per cent. on public works. Of the administrative expenses, salaries were the largest. The relative cost of administration in the country is high, being 12·6 per cent. of the total expenditure; the suburban municipalities spend only 7·7 per cent. under the same heading. The high relative cost of administration in the country is due, no doubt, to the sparse population and small revenue of many of the municipalities. In such cases, the expenses on account of salaries, &c., would naturally be larger proportionately than in the more closely-settled localities in the suburbs. Public Services for 1915 include—Pounds, £6,567; street-watering, £14,594; street lighting, £76,159; and all other services, £59,214. The greatest part of the expenditure on Public Works was on roads, streets, &c., as will be seen below:—

Services.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
Supervision ...	12,326	7,517	19,843	14,784	8,371	23,155
Roads, streets, culverts, &c. ...	359,763	205,476	565,239	394,329	232,806	627,135
Bridges ...	1,272	10,353	11,625	1,675	8,772	10,447
Drains, sewers, &c. ...	13,705	4,990	18,695	18,862	5,717	24,579
Ferries, wharfs, and jetties	4,064	1,792	5,856	3,193	2,520	5,713
undries ...	8,009	6,508	14,517	9,875	7,093	16,968
Total ...	399,139	236,636	635,775	442,718	265,279	707,997

Of the expenditure on roads, streets, &c., in 1915, the amount spent on maintenance, renewals, and repairs was £328,828; £91,057 was expended on

construction, £49,270 on street and gutter cleaning, £50,693 on kerbing and guttering, £67,569 on footpaths and gutter bridges, £30,256 for interest on loans, and £9,462 on sundries.

The Trading Accounts, which relate to the supply of gas or electricity, will be treated later under those headings, and the special Water and Sewerage Funds will also be discussed separately.

INCOME.

The net income in 1915 of all the municipalities brought under the provision of the Local Government Act was £1,764,887, including £54,895 received as endowments or grants from the Government. Under the same funds as shown in the expenditure the income for 1914 and 1915 was as follows:—

Funds.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
General Fund	681,911	469,295	1,151,206	708,841	473,070	1,181,911
Trading Accounts	12	124,369	124,331	... ..	135,457	135,457
Special and Local Funds	52,402	269,006	321,408	54,855	232,984	337,839
Loan Funds	58,706	66,853	125,559	71,111	63,469	139,580
Reserves and Renewals Account	6,101	22,066	28,167	5,012	27,616	32,628
Gross Income	799,132	951,589	1,750,721	839,819	987,596	1,827,415
Deduct Transfers,	35,762	24,830	60,592	40,589	21,939	62,528
Net Income	763,370	926,759	1,690,129	799,230	965,657	1,764,887

Details of the items of the General Fund for 1914 and 1915 are as follows:—

Source of Income.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
General Purposes—						
Rates levied (including interest)	559,124	338,646	897,770	586,257	343,248	929,505
Government Endowments, &c.	745	4,371	5,116	971	3,370	4,341
Sundries	12,466	8,926	21,392	9,380	8,814	18,194
Public Works*	51,063	47,186	98,249	54,146	47,231	101,377
Health Administration*	22,454	14,954	37,408	21,256	14,794	36,050
Public Services*	12,912	16,845	29,757	15,264	17,153	32,417
Municipal Property	20,348	37,849	58,197	20,832	37,344	58,176
Miscellaneous	2,794	518	3,312	735	1,116	1,851
Total	631,911	469,295	1,151,206	708,841	473,070	1,181,911

* Including Government grants.

To the income from public works, the Government contributed £45,119 as grants for roads, streets, &c., £334 for ferries, £4,008 for Parks and Reserves, and £1,093 for General Purposes, making a total of £50,554.

Stating the income under each head as a percentage of the total income of the General Fund, the following results are obtained:—

Source of Income.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
General Purposes—	per cent	per cent.	per cent.	per cent.	per cent.	per cent.
Rates levied (including interest)	82.0	72.2	78.0	82.7	72.6	78.6
Government Endowments, &c.	0.1	0.9	0.4	0.1	0.7	0.4
Sundries	1.7	1.9	1.9	1.3	1.9	1.5
Public Works*	7.5	10.1	8.5	7.7	10.0	8.6
Health Administration*	3.3	3.2	3.2	3.0	3.1	3.1
Public Services*	2.0	3.6	2.6	2.2	3.6	2.7
Municipal Property	3.0	8.1	5.1	2.9	7.9	4.9
Miscellaneous	0.4	.....	0.3	0.1	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

* Including Government grants.

The bulk of the general income was received from rates, the average for all municipalities being 78.6 per cent., the proportion in the suburbs being 82.7 per cent., and in the country 72.6 per cent. The next important source of income was from Public Works, but it should be remembered that about 50 per cent. of the contribution was provided by the Government as grants. By the transfer of the Sanitary and Garbage Services from the General Fund, as provided by the 1908 Amendment of the Act, Health Administration lost its most important factor of revenue, contributing only 3.1 per cent. of the total as against 9.8 per cent. in 1908. The difference is still more marked in the country, where the proportion was 15.5 per cent. in 1908 and 3.1 per cent. in 1915. In the suburbs, the Metropolitan Sewerage Board levies charges in addition to those made by the municipalities, reference to which is made later on.

SPECIAL AND LOCAL FUNDS.

The expenditure and income of the Special and Local Funds for the years 1914 and 1915 are shown in the following table:—

Funds.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
Expenditure—	£	£	£	£	£	£
Water Supply	.....	84,733	84,733	.....	86,836	86,836
Sewerage	.....	11,018	11,018	.....	15,341	15,341
Sanitary and Garbage	35,312	123,059	158,371	39,558	132,208	171,766
Street Lighting	.....	23,566	23,566	97	24,402	24,499
Street Watering	1,010	542	1,552	733	479	1,212
Old Loans' Interest	7,632	718	8,350	3,765	832	4,597
Cemetery	5,450	.....	5,450	9,727	.....	9,727
Miscellaneous	1,801	5,083	6,884	3,163	4,920	8,083
Total	51,205	248,719	299,924	57,043	265,018	322,061
Income—						
Water Supply	.....	93,699	93,699	.....	98,515	98,515
Sewerage	.....	12,051	12,051	.....	15,436	15,436
Sanitary and Garbage	35,378	130,405	165,783	41,049	138,327	179,376
Street Lighting	.....	25,637	25,637	123	24,826	24,949
Street Watering	1,221	697	1,918	730	620	1,350
Old Loans' Interest	7,105	642	7,747	2,964	829	3,793
Cemetery	6,996	.....	6,996	7,114	.....	7,114
Miscellaneous	1,702	5,875	7,577	2,875	4,431	7,306
Total	52,402	269,006	321,408	54,855	282,984	337,839

BALANCE-SHEET.

The financial position of the municipalities, at 31st December, 1914 and 1915, is shown by the following statement of liabilities and assets of the various funds:—

Funds.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
Liabilities—	£	£	£	£	£	£
General Fund	142,754	82,250	225,004	183,362	89,113	272,475
Trading Accounts .. ..	.....	68,365	68,365	.....	85,165	85,165
Special and Local Funds	11,164	1,171,658	1,182,822	10,703	1,270,869	1,281,572
Loan Funds	794,703	641,204	1,435,907	856,840	662,388	1,519,228
Reserves and Renewals Account	4,878	21,323	26,201	4,930	24,499	29,429
Total	953,499	1,984,800	2,938,299	1,055,835	2,132,034	3,187,869
Assets—						
General Fund	363,096	487,820	850,916	389,776	499,156	888,932
Trading Accounts .. ..	.....	122,656	122,656	.....	152,351	152,351
Special and Local Funds	39,191	1,300,137	1,339,328	36,965	1,425,174	1,462,139
Loan Funds	174,978	568,976	743,954	198,583	607,986	806,569
Reserves and Renewals Account	4,878	21,323	26,201	4,930	24,499	29,429
Total	582,143	2,500,912	3,083,055	630,254	2,709,166	3,339,420

Every municipality must keep a General Fund, the liabilities of which consist mostly of amounts due to temporary and other loans, and sundry creditors, the latter being chiefly advances from the State Departments; but the assets are more than sufficient to meet them, and in only ten municipalities in 1915 was there an excess of liabilities. The liabilities and assets of the General Fund in the suburban and country municipalities, as at 31st December, 1914 and 1915, are shown below:—

Classification.	1914.			1915.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
Liabilities—	£	£	£	£	£	£
Temporary loans	53,317	21,794	75,111	67,270	25,712	92,982
Overdrafts .. ..	.....	806	806	.....	121	121
Sundry creditors (including amounts due to other Funds)	89,279	50,879	140,158	116,023	62,301	178,324
Other	158	8,771	8,929	69	979	1,048
Total	142,754	82,250	225,004	183,362	89,113	272,475
Assets—						
Outstanding rates (including interest)	45,039	78,040	123,079	47,865	83,922	131,787
Stores and materials	6,780	9,113	15,893	6,961	10,304	17,265
Bank balance and cash	41,326	51,035	92,361	32,819	44,349	77,168
Land and buildings	192,355	234,502	426,857	206,985	234,648	441,633
Plant and furniture	46,124	66,378	112,502	59,739	71,164	130,903
Other	31,472	48,762	80,234	35,407	54,769	90,176
Total	363,096	487,820	850,916	389,776	499,156	888,932

The principal asset of the municipalities consists of land and buildings, which were at the end of 1915 valued at £441,633, or 49.5 per cent. of the total assets. Outstanding rates and interest amounted to £131,787, while bank balances and cash in hand were equal to £77,168.

LOANS.

Under the Local Government Act a municipality may borrow to an amount which, with existing loans, does not exceed 10 per cent. of the unimproved capital value of ratable lands. Where, at the commencement of the Act, any municipality had exceeded the statutory maximum, it could not borrow further until the total amount owing had fallen below the limit.

The total amount of loans raised during 1915 was £685,042, including £551,300 borrowed by the City of Sydney, £46,300 by the Suburbs, and £87,442 by Country municipalities, and allowing for additions and reductions of secured overdrafts. The sinking funds of the City of Sydney were increased by £79,230, and of the Country by £2,783; while in the Suburbs a decrease of £2,178 is shown, due to the application of the funds in redemption of the loans. Apart from the liability of the State under the Country Towns Water and Sewerage Act, the total amount of loans outstanding at the close of the year was £8,372,423, and towards this amount there was at the credit of the sinking funds a sum of £586,010.

Rates of interest ranged from $3\frac{1}{2}$ per cent., which was carried by £171,483, to $7\frac{1}{2}$ per cent., which, however, was payable only on £200, and the amount paid and due as interest on loans during the year was £328,734. The total indebtedness was £8,372,423, bearing an average rate of interest of 3.92 per cent., viz., 3.92 per cent. on the loans of the City of Sydney, 3.81 per cent. on those of the suburban municipalities, and 4.08 per cent. on those of the country municipalities.

The average rate of interest payable on all loans is hardly, however, an index of the true value of municipal debentures to the investors, as out of a total debt of £8,372,423, the sum of £4,223,848 pays interest at 4 per cent., £2,183,865 at $3\frac{3}{4}$ per cent., and £548,009 at $4\frac{3}{4}$ per cent. Of these amounts the metropolitan municipalities are responsible for £4,112,481, £2,183,865, and £538,709 respectively. The country municipalities borrowed £111,367 at 4 per cent., £140,581 at $4\frac{1}{2}$ per cent., and £206,036 at 5 per cent.

The total debt per head of population living in municipalities amounted to £6 19s. 0d., without allowance being made for sinking funds, while the yearly charge for interest is 5s. 5d. per head. These sums, compared with the resources of the municipalities, appear by no means formidable.

The following are the outstanding loans on 31st December, 1915, and the sinking funds set apart to meet them; the New South Wales figures include £15,064 raised in Victoria:—

Division.	Municipal Loans Outstanding.			Sinking Funds.	Interest paid and due on Loans, 1915.
	New South Wales.	London.	Total.		
	£	£	£	£	£
Sydney—City	5,915,100	800,000	6,715,100	550,633	263,657
„ Suburbs	951,479	.....	951,479	14,441	36,291
Country	680,645	25,199	705,844	20,936	28,786
Total	£ 7,547,224	825,199	8,372,423	586,010	328,734

Temporary loans, amounting altogether to £176,853, which bear interest at current bank rates, and loans payable on demand amounting to £85,057, are included in the above table.

The loans are redeemable at various periods after 1915, and the amount to be repaid in London was £825,199, or nearly 10 per cent. of the total, and the amount of debentures held locally was £7,547,224.

It has been explained previously that, in respect of municipalities operating under the regulations of the Local Government Act, a separate loan fund must be kept relating to each work or service for which loans are raised. There are, therefore, numerous funds relating to such matters as permanent improvements, town hall and other property, garbage service, wharfs, electricity, gas, cattle sale-yards, street-watering, and others.

SHIRES.

From the 1st January, 1907, 135 shires had been working under the Local Government Act, 1906, but the number was increased to 136 during 1915, owing to the establishment of the Nambucca Shire, which was separated from Bellingen. These shires are all in the Eastern and Central Land Division, 98 being in the former, and 38 in the latter. With the exception of 8 municipalities, the Western Land Division is unincorporated.

The shires vary in area from 36 square miles in Ku-ring-gai, immediately north of the City of Sydney, to 5,730 square miles in Lachlan, the headquarters of which are at Condobolin. The smallest shires are in the most closely settled parts of the State. A general rate, not less than 1d. in the £, and not more than 2d. in the £, may be levied by shires on the unimproved capital value of all ratable land. If, however, the general rate of 1d. is more than sufficient to meet requirements, the Governor may allow the rate to be reduced below 1d. In 1915 eight shires levied a general rate less than 1d.

The rates levied in 1915 and the unimproved capital value of the land in each case were as follow:—

No. of Shires.	General Rate levied in £.	Unimproved Capital Value of Land.
	d.	£
1	$\frac{1}{2}$	1,200,284
2	$\frac{3}{4}$	2,406,637
5	$\frac{3}{4}$	5,405,329
26	1	50,981,289
1	1 $\frac{1}{4}$	1,275,624
17	1 $\frac{1}{2}$	13,451,682
29	1 $\frac{1}{2}$	18,699,331
5	1 $\frac{3}{4}$	2,264,681
49	2	29,060,776
135	...	104,745,633

The total number of shires (135) is exclusive of Nambucca, in which shire no rates were struck as it was incorporated with Bellingen at the close of 1915.

The unimproved capital value of the shires in 1915 was £104,745,633, but it is not possible to give the improved capital value, or the assessed annual value, as the shires are not compelled to make those valuations.

In addition to the general rates shown above, local rates were also levied by thirty-two shires, particulars of which are shown in the following table:—

Shire.	District.	Purpose for which Levied.	Amount of Rate per £1 of u.c.v.
			pence.
Apsley ...	Walcha ...	Bridge construction ...	0 $\frac{1}{12}$
Berrigan...	Finley ...	Footpaths ...	3
	Tocumwal ...	do ...	2
Bland ...	Barmedman ...	Street improvements...	1 $\frac{1}{2}$
	West Wyalong	do do ...	1 $\frac{1}{2}$
	do do ...	Fire Brigade ...	0 $\frac{1}{2}$ *
Blaxland ...	Portland ...	Roads and streets and water supply	4 $\frac{1}{2}$
Blue Mountains..	Blackheath ...	Parks ...	0 $\frac{1}{2}$
	do ...	Street lighting ...	1
	Leura ...	do ...	1
Bolwarra ...	Lorn ...	Fire Brigade ...	0 $\frac{1}{10}$ *
	do ...	Street lighting ...	0 $\frac{1}{2}$ *
	do ...	Parks ...	0 $\frac{1}{10}$ *
	Phoenix Park...	Drainage ...	0 $\frac{1}{2}$
Boree ...	Canowindra ...	Additional general ...	2
Bulli ...	Bulli ...	Street lighting ...	1 $\frac{1}{2}$
Cessnock ...	Cessnock ...	Fire Brigade ...	0 $\frac{1}{2}$
	Kurri Kurri ...	do ...	0 $\frac{1}{2}$
	Cessnock ...	Street lighting ...	2
Coolamon ...	Coolamon ...	{ Street improvements and }	1
	Gannain ...	{ street lighting. }	
Crookwell ...	Crookwell ...	Kerbing and guttering	2
Culcairn... ..	Henty... ..	Streets and footpaths	1 $\frac{1}{2}$
Dorrigo ...	Coff's Harbour	Fire Brigade ...	0 $\frac{1}{2}$
Erina ...	Gosford ...	Drainage ...	2
	do ...	Street lighting ...	1
Gilgandra ...	Gilgandra ...	Fire Brigade ...	0 $\frac{1}{2}$
	do ...	Street improvements ..	3
Gloucester ...	Gloucester ...	Street lighting and street improvements.	2
	do ...	Park ...	1 $\frac{1}{2}$
Goobang ...	Trundle ...	Water supply ...	3
Holbrook ...	Holbrook ...	Street lighting ...	1
Hornsby... ..	Hornsby, Waitara, Thornleigh, Pennant Hills, Beecroft, and Epping.	{ Street lighting ... }	0 $\frac{3}{4}$
	Hornsby ...	Fire Brigade ...	0 $\frac{1}{2}$
Ku-ring-gai ...	Wahroonga to Roseville.	Street lighting ...	0 $\frac{3}{4}$
	do do ...	Fire Brigade ...	0 $\frac{1}{10}$
Kyogle ..	Kyogle ...	Street improvements...	3 $\frac{1}{2}$
Lake Macquarie..	Boolaroo ...	Fire Brigade ...	0 $\frac{1}{2}$
	West Wallsend ..	do do ...	0 $\frac{1}{2}$
	Boolaroo ...	Street improvements...	2
	West Wallsend	do do ...	1 $\frac{1}{2}$
Lockhart ...	Lockhart ...	Additional general ...	3
Lyndhurst ...	Millthorpe ...	Street improvements...	2
Namoi ...	Boggabri ...	Bridge construction ...	0 $\frac{1}{2}$
	Harparary ...	do do ...	0 $\frac{1}{2}$
Patrick Plains ...	Carrow Brook	Road deviation ...	1
Sutherland ...	Cronulla ...	Additional general ...	1
Tintenbar ...	Alstonville ...	Street lighting ...	3
Urana ...	Oaklands ...	Water supply ...	3
Walgett ...	Walgett ...	Fire Brigade ...	0 $\frac{1}{8}$ *
Warringah ...	Freshwater ...	Street lighting ...	0 $\frac{1}{2}$
	do ...	Fire Brigade ...	0 $\frac{1}{10}$
Wingadee ...	Quambone ...	Water supply ...	5

* On I.C.V.

The total amount of general and additional general rates levied was £610,407, and special and local rates £16,107. These figures represent the rates actually levied in respect of the year 1915, and differ from the amount shown later, the difference being due to the inclusion of interest on unpaid rates.

In several cases the general rate was not sufficient to meet the requirements, and the State paid endowments to a large number of shires. Endowments are fixed every third year, and are determined according to the extent of the shire, the probable revenue from a rate of 1d. in the £, the necessary expenditure, the extent of roads and other public works to be constructed and maintained, and other matters. The endowment is paid on the general rates actually collected in the preceding year. There are six classes into which the shires are divided for endowment purposes, the classification for the three years 1916-18 being as follows:—

52 shires in 1st class receive no endowment.				
63	"	1st	"	from 1s. to 10s. in the £ on General Rate.
5	"	2nd	"	15s. in the £ on General Rate.
8	"	3rd	"	20s. " "
4	"	4th	"	25s. " "
3	"	5th	"	30s. " "
1 shire in 6th	"		"	receives 40s. " "

The highest endowment allotted in 1916 was 40 shillings in the £ to Bellingen shire, but on the whole the endowments are considerably lower than those paid in the preceding three years. In 1915 the Government paid £163,211 as endowment to the shires, and a further sum of £175,851 was paid as grants for special purposes, making the total subvention from the State £339,062.

LOANS.

The Local Government (Shires Loans) Act, 1914, empowers Shire Councils to borrow money, not exceeding in the aggregate a sum equal to thrice the amount of the annual income. The loans may be secured and charged upon the income of the general funds of the shire, and are repayable in annual or half-yearly instalments of principal and interest. At the 31st December, 1915, there were seven shires which had loans current, viz., Coolamon, Culcairn, Hornsby, Murrungal, Nepean, Sutherland, and Waringah. The original amount of the loans was £17,450, and £182 had been paid off, leaving a balance due of £17,068. The loans were raised for the purpose of making improvements to roads, footpaths, &c., except that of the Hornsby Shire, where the amount was floated for the construction of office premises.

INCOME.

The principal heads of income of shires in 1915 were as follows, and for purposes of comparison the 1914 figures are attached:—

Particulars.	1914.		1915.	
	Income.	Per cent.	Income.	Per cent.
General Fund—	£		£	
General rates (including interest) ...	609,580	58·3	612,612	57·5
Government endowment ...	146,077	14·0	163,211	15·3
Public works ...	197,754	18·9	192,319	18·0
Health administration ...	4,889	0·5	4,620	0·4
Public services ...	10,069	1·0	9,711	0·9
Shire property ...	13,738	1·3	12,512	1·2
Miscellaneous ...	5,171	0·5	5,843	0·5
Special and local funds ...	57,365	5·5	63,633	6·0
Loan funds ...	349	0·0	1,660	0·2
Total Income ...	£ 1,044,992	100·0	1,066,121	100·0

The income from public works in 1914 and 1915 increased largely compared with 1913, owing to the fact that the Government grants in aid of roads, streets, bridges, &c., in the first-mentioned years were very large. The income from special and local funds has increased, owing principally to the expansion in the Sanitary and Garbage Fund.

Of the total income in 1915, Government assistance, exclusive of grants for public works, provided 15·3 per cent., as against 14·0 per cent. in 1914. The principal items in public works were contributions to roads, bridges, &c., £14,397; Government grants for roads, &c., £164,031; and receipts from ferries, which, including Government grants, amounting to £10,113, were £11,459. The principal item in public services was rent, &c., from public watering places, £7,503. The income derived from special and local funds, consisting of the proceeds of special and local rates and sanitary and garbage fees, claimed 6·0 per cent. of the total, being slightly more than in 1914.

EXPENDITURE.

The following statement shows the expenditure of shires during 1915 in comparison with the previous year:—

Particulars.	1914.		1915.	
	Expenditure.	Per cent.	Expenditure.	Per cent.
	£		£	
General Fund—				
Rates and interest abandoned ...	1,979	0·2	1,289	0·1
Administrative expenses	95,760	9·6	87,527	8·6
Public works	801,542	80·5	813,400	79·8
Health administration	8,064	0·8	8,049	0·8
Public services	14,757	1·5	17,935	1·7
Shire property	15,277	1·5	14,644	1·4
Miscellaneous	7,296	0·7	9,001	0·9
Special and local funds	51,431	5·2	57,324	5·8
Loan Funds	365	0·0	9,701	0·9
Total Expenditure	£ 996,471	100·0	1,018,870	100·0

The expenditure on the whole, and taking item for item, differs to such a slight extent in each year that it is apparent that the councils now measure their necessities in accordance with their estimated revenue.

The administrative expenses were £87,527, or 8·6 per cent. of the total expenditure. Of the administrative expenses, £37,550 were on salaries, £13,869 on advertising, stationery, printing, &c., £4,812 on valuation fees, and £15,297 on presidents' allowances and councillors' travelling expenses. The expenditure on works accounted for 79·8 per cent. of the total. The principal expenditure was £680,550 on roads, streets, footpaths, kerbing and guttering, culverts, &c., of which £372,897 were on maintenance, repairs, and renewals, £304,266 on construction, and £3,387 on sundries. For other public works—bridges, punts, ferries, wharfs, &c.—£36,136 were spent on maintenance and repairs, and £27,309 on construction. Supervision expenses (salaries of engineers, &c.) amounted to £48,914.

BALANCE-SHEET.

The financial position of the shires on 31st December, 1915, was strong, as there was an excess of assets of £431,298. The combined balance-sheet of the shires on 31st December, 1915, appears as follows:—

Liabilities.			Assets.		
General Fund—					
		£			£
Temporary Loans	49,220		Outstanding Rates... ..	52,928	
Due to Trust Fund	258		Stores and Materials	13,087	
Sundry Creditors	32,099		Bank Balance and Cash	117,252	
Due on Contracts	983		Sundry Debtors	14,163	
Other	9,552		Land and Buildings	112,409	
Total, General Fund	£92,112		Plant and Property	177,671	
Special or Local Funds	19,631		Furniture, &c.	15,817	
Loan Funds	17,438		Other	3,821	
Total, all Funds... ..	£129,181		Total, General Fund	£507,148	
Excess of Assets	431,298		Special or Local Funds	44,543	
Total	£560,479		Loan Funds... ..	8,788	
			Total	£560,479	

It will be observed that a large proportion of the assets of the General Fund—£117,252, or over 23 per cent.—consists of cash in bank or in hand. The liabilities of the special or local funds consist for the most part of amounts due to the General Fund, and sundry creditors; while the assets comprise plant and buildings appropriated to the funds at their inception, outstanding fees and rates, and bank balances.

TAXATION BY LOCAL GOVERNING BODIES.

The total revenue collected by all the local governing bodies from rates and charges amounts to £3,115,399, equal to £1 13s. 8d. per head of the population residing in the taxable districts, and per head of the general population of the State. This includes £1,541,396, rates collected by municipalities; £626,514, rates collected by shires; and £947,489, rates collected by the various Water and Sewerage Boards referred to later. The distribution of the total amount is as follows:—

Local Bodies.	General Rates.	Special and Loan Rates.	Total.	Per head of population living in local areas.
	£	£	£	£ s. d.
Municipalities (including City of Sydney)	1,390,029	151,367	1,541,396	1 5 7
Shires	610,407	16,107	626,514	0 19 4
Metropolitan water and sewerage charges	849,400	.....	849,400	0 18 2
Hunter District water and sewerage charges.	98,089	.....	98,089	0 17 9
Total	£ 2,947,925	167,474	3,115,399	1 13 8

BOARDS AND TRUSTS.

In addition to the ordinary forms of municipal local government, there are various boards and trusts with local jurisdiction. The control of the water supply and sewerage of the Metropolitan and Hunter districts is placed under separate boards. The Metropolitan and the Country Towns Water Supply and Sewerage Acts, the Fire Brigades Act, the Sydney Harbour Trust Act, the Metropolitan Traffic Act, and the Motor Traffic Act, were all passed with the object of extending the principle of local government, and boards have been established to carry out the provisions of some of these Acts.

The Metropolitan Board of Water Supply and Sewerage was established in 1887, the Hunter District Board in 1892, and the Sydney Harbour Trust in the year 1900.

The majority of the Boards dealing with local affairs work mainly in conjunction with the municipalities and shires, although possessing powers independent of those bodies.

In 1900 the Metropolitan Traffic Act was passed, which gives the complete control of street traffic and the licensing of public vehicles, drivers, and conductors to the Inspector-General of Police, and the Motor Traffic Act of 1909 places the supervision of motor vehicles under the same authority. Further information regarding licenses and fees is published in the chapter of this Year Book treating of "Police and Prison Services."

BOARD OF FIRE COMMISSIONERS.

The Fire Brigades Act, 1909, which repealed the Act of 1902, applies to the City of Sydney, to forty suburban municipalities, to eighty-six country municipalities, and to parts of ten shires, and the operations of the Board may be extended to other districts by proclamation. At the end of 1916 the districts embracing the municipalities and shires numbered seventy-six. Particulars relating to the financial transactions of the Board will be found in the chapter of this publication dealing with "Private Finance."

The calls attended during 1916 numbered 1,656, of which 1,096 were in the Sydney district. Particulars are shown below:—

Calls.	Sydney District.	Country Districts.	Total.
False alarms	157	50	207
Chimney alarms	25	25	50
Fires—Slight	561	408	1,269
„ Serious	11	5	16
„ Total destruction... ..	42	72	114
Total	1,096	560	1,656

WATER SUPPLY FOR COUNTRY TOWNS.

The Country Towns Water Supply and Sewerage Act of 1880 was passed with the object of assisting municipalities to construct general systems of water supply and sewerage. To the end of June, 1916, fifty-three municipal councils had availed themselves of the privilege offered as regards the water service, and works were under construction in other municipalities.

The amount required for carrying out the works is advanced by the State. The municipality, however, has the option of supervising and constructing the works, failing which the Government undertakes these duties. Under the original Act, the sum advanced was to be repaid by instalments, with interest at the rate of 4 per cent., on the unpaid balances, each annual instalment to be equal to 6 per cent. of the total cost, and the first payment to be made twelve months after the date of the transfer of the works to the municipality; but as it was found that the municipalities which had contracted liabilities in respect of water supply works were unable to comply with these conditions, the Government, in 1894, passed an amending Act which granted them more favourable terms, the rate of interest being reduced to 3½ per cent., and the number of yearly repayments fixed at a maximum of 100. Under the amending Act of 1905, the rate of interest is fixed at 4 per cent. per annum. This

Act also provides for the issue of licenses to workmen, for the recovery of rates, and for making by-laws for the assessment of lands, and for other purposes.

The following is a statement, as at 30th June, 1916, of the waterworks completed and handed over by the Government, showing the capital debt and the sums payable annually for periods varying from 20 to 100 years:—

Municipality.	Capital Debt (as gazetted).	Annual Instalment.	Municipality.	Capital Debt (as gazetted).	Annual Instalment.
	£	£		£	£
Albury	52,390	2,013	Katoomba	29,493	884
Armidale	40,718	1,474	Kempsey	19,581	909
Ballina	17,652	664	Kiama	17,003	718
Bairnsdale	6,000	217	Lismore	18,526	716
Bathurst	56,797	2,087	Lithgow	37,552	1,526
Berry	7,301	346	Mittagong	11,996	524
Blayney	10,771	389	Moama	7,868	292
Bourke	13,436	496	Moree	15,493	509
Bowral	872	61	Moss Vale	13,000	470
Casino	27,956	1,187	Mudgee	20,463	800
Cobar	28,754	1,117	Murwillumbah	3,156	128
Condobolin	8,638	297	Muswellbrook	18,462	Not fixed.
Cooma	18,599	795	Nowra	15,814	483
Coonamble	10,214	387	Nyngan	10,947	403
Cootamundra	25,407	876	Orange	40,322	1,507
Corowa	15,221	715	Parke	22,000	796
Cowra	15,647	669	Pictou	17,104	630
Deniliquin	18,668	682	Quirindi	18,907	806
Dubbo	22,081	843	Singleton	24,784	1,057
Dungog	12,363	575	Tumut	10,238	370
Forbes	29,021	1,257	Wagga Wagga	45,504	1,769
Goulburn	66,468	2,056	Warren	7,810	256
Gundagai	11,278	446	Wellington	29,837	707
Gunnedah	14,881	634	Wentworth	4,000	145
Hay	17,075	624	Wilcannia	8,381	303
Hillgrove	4,009	170			
Jerrilderie	8,518	245			
Junee	42,000	1,519			
			Total	£ 1,069,017	39,579

The total shown for annual instalments repayable (£39,579) is approximate only, as in a few cases the amount has not been definitely fixed. The amount of the principal indebtedness repaid as at 31st December, 1915, was £26,120.

The combined revenue accounts of the municipalities which maintain waterworks for the year ended 31st December, 1915, are shown below:—

Income.				Expenditure.			
			£				£
Rates levied...	...	...	65,904	Management .. ..	...	...	14,372
Meter rents ..	...	...	479	Working and maintenance ..	...	...	30,617
Water sales ..	...	...	24,997	Repairs and renewals ..	...	...	5,004
Garden charges, &c. ..	...	...	7,135	Interest payable to Government...	...	...	32,916
				Other... ..	...	...	3,927
				Balance .. ..	...	...	11,679
Total... ..	...	...	£98,515	Total .. ..	...	...	£98,515

With regard to the expenditure, management charges accounted for 16·5 per cent., working and maintenance for 35·3 per cent., repairs and renewals 5·8 per cent., interest payable to Government 37·9 per cent., and miscellaneous items 4·5 per cent.

The income figures show that rates contributed 66·9 per cent. of the receipts, meter rents 0·5 per cent., water sales 25·4 per cent., and garden charges, &c., 7·2 per cent.

The combined balance-sheet on 31st December, 1915, was as follows:—

Liabilities.		Assets.	
	£		£
Amount for which liable to Government	911,409	Waterworks—plant, buildings, &c.	955,903
Interest due to Government and unpaid	28,474	Outstanding rates... ..	17,416
Sundry creditors	29,992	Bank balances and cash in hand	21,869
Excess of Assets	68,418	Stores and materials	4,483
		Sundry debtors	26,601
		Fixed deposits (including interest)	12,021
Total	£1,033,293	Total	£1,038,293

The total amount advanced by the Government practically represents the present value of the services; but where the works were not constructed by the Government, the value is included as an asset of the loan fund. The amount of rates outstanding on the date mentioned was £17,416, while the bank balances, cash in hand, and fixed deposits were £33,890. On the whole, the assets exceeded the liabilities by £68,418.

SEWERAGE AND DRAINAGE WORKS.

Only sixteen municipal councils have taken advantage of the Act providing for the construction of sewerage and drainage works in country towns, and the capital debt and annual repayments on 30th June, 1916, were as follows:—

Municipality.	Capital Debt as Gazetted.	Annual Instalment.	Municipality.	Capital Debt as Gazetted.	Annual Instalment.
	£	£		£	£
Ballina	327	20	Lithgow	53,515	2,192
Bathurst	49,762	2,316	Murwillumbah	2,264	96
Blayney	429	26	Narrandera	10,064	463
Casino	16,394	931	Parkes	250	15
Coraki	1,214	69	Parramatta	66,010	2,387
Forbes	1,623	59	Tamworth	1,217	57
Hay	22,368	809	Wagga Wagga	31,727	1,402
Katoomba	50,937	2,147			
Lismore	30,222	1,142	Total	£ 333,313	14,131

Other sewerage systems are in existence in several places, but they have been constructed apart from the Act, and with few exceptions, the operations have been on a minor scale.

Some of the municipalities named in the above table do not levy special sewerage rates, and therefore do not keep a separate account. The revenue accounts of the other municipalities for the year ended 31st December, 1915, are shown below:—

Income.		Expenditure.	
	£		£
Rates levied	13,274	Management	1,983
Other	2,162	Working and maintenance	4,532
		Repairs and renewals	222
		Interest payable to Government... ..	8,304
		Other... ..	300
		Balance	95
Total	£15,436	Total	£15,436

Practically the only source of income is from rates. Of the expenditure, management charges represented 12·9 per cent., working and maintenance 29·5 per cent., repairs and renewals 1·5 per cent., interest payable to Government 54·1 per cent., and other expenses 2·0 per cent. The combined balance-sheet was as follows:—

Liabilities.				Assets.			
			£				£
Amount of Capital Debt for which liable to Government ...	267,530			Works	270,927		
Due to Government as Interest	8,475			Outstanding rates	1,928		
Sundry creditors	2,338			Bank balance and cash	4,955		
Excess of Assets	1,892			Stores and materials	319		
				Sundry debtors	2,106		
Total	£280,235			Total	£280,235		

SWAMP DRAINAGE.

In addition to the water and sewerage works shown in the foregoing tables, thirty-three trusts for reclamation of swamp lands were in operation on the 30th June, 1916, with a total length of 118½ miles. The total cost as gazetted was £114,980, and the annual payments were £6,671.

GAS-WORKS.

The Local Government Act authorises the construction of works for public lighting, and enables municipalities to provide private consumers with gas. In addition, acetylene gas plants have been established in nineteen municipalities.

The operations of the municipalities with gas-works in 1915 will be seen from the subjoined statements showing the Gasworks Trading Undertaking revenue account and balance-sheet, and the loan fund balance-sheet. The following is the revenue account, and particulars for 1914 are appended for purposes of comparison:—

Income.	1914.	1915.	Expenditure.	1914.	1915.
	£	£		£	£
Private lighting ...	56,808	60,229	Manufacture	38,268	41,165
Public lighting ...	10,914	11,388	Distribution	4,363	5,115
Sale residual products	7,312	8,023	Management expenses	10,032	10,738
Other	660	468	Public lighting	3,083	3,469
			Other	911	706
			Balance	19,037	18,915
Total	£ 75,694	80,108	Total	£ 75,694	80,108

On the total operations for 1915 there was a gross profit of £18,915, none of the municipalities showing a loss. The manufacture of gas

accounted for 67·3 per cent. of the expenditure, as compared with 67·5 per cent. in 1914, and private lighting for 75·2 per cent. of the income, as against 75·0 per cent. in 1914.

The gross profit in 1915 was reduced in the Net Revenue Appropriation Account by charges amounting to £16,134. Transfers to the loan fund included £5,919 for payment of interest, and £10,215 for other purposes, and the credit balance carried forward amounted to £23,533.

The balance-sheet of the Gasworks Trading Undertakings for 1915 is given below:—

Liabilities.				Assets.			
£				£			
Due to other Funds	...	...	24,836	Buildings, land, stock, plant, &c.	60,324		
Sundry creditors	...	...	16,069	Sundry debtors, including amounts due from other funds	...	24,750	
Reserves	...	...	12,687	Fixed deposits	...	1,634	
Excess of Assets	...	...	44,049	Bank balance and cash	...	10,933	
Total	...	..	£97,641	Total	...	...	£97,641

The total excess of assets amounted to £44,049, to which each municipality, with one exception, contributed.

The following balance-sheet of the loan fund shows the value of the assets of the Gasworks Trading Undertaking for 1915:—

Liabilities.				Assets.			
£				£			
Loans current	...	...	127,596	Land and buildings	..	33,856	
Interest accrued not paid, &c.	...	...	2,345	Plant, mains, lamps, &c.	...	151,148	
Excess of Assets	...	...	75,723	Due from other funds	...	15,204	
				Investments	...	5,237	
				Other	...	219	
Total	...	...	£205,664	Total	...	...	£205,664

Against a total loan indebtedness of £127,596, the municipalities had assets valued at £205,664, the excess of assets being substantial. Land, buildings, plant, &c., made up 89·9 per cent. of the assets; amounts due from other funds, chiefly trading accounts, 7·4 per cent.; and investments, &c., 2·7 per cent.

ELECTRICITY WORKS.

The following municipalities have erected electric lighting plants:—Sydney, Redfern, Broken Hill, Corowa, Goulburn, Inverell, Moss Vale, Narrandera, Newcastle, Penrith, Tamworth, Temora, and Young. These works were erected under separate Acts, as electric lighting may not be undertaken without special legislation.

The following statement shows the results of the operations of the electricity works in 1914 and 1915 in respect of municipalities operating under the Local Government Act. The City of Sydney electric lighting undertaking has already been dealt with:—

Income.	1914.	1915.	Expenditure.	1914.	1915.
	£	£		£	£
Private lighting	26,255	30,186	Generation	21,711	23,782
Public lighting	10,252	11,138	Distribution	3,058	3,353
Power supply	9,064	10,910	Management, &c. ...	4,308	4,970
Rents of meters, &c. ...	1,965	1,777	Special charges	788	851
Other	1,151	1,358	Public lighting	1,541	1,917
			Other	3,446	3,657
			Balance	13,835	16,819
Total	£ 48,687	55,349	Total	£ 48,687	55,349

Generation of electricity is the largest item of expenditure, accounting in 1915 for 61·7 per cent. of the whole. Distribution of the current cost 8·7 per cent., management 12·9 per cent., and other expenses 16·7 per cent. The gross profit of this concern to the combined municipalities was £16,819, and after deducting amounts transferred to the net revenue appropriation account, viz., interest £3,892, redemptions and sinking funds £3,205, and miscellaneous £769, a total of £7,866, the net profit was £8,953.

The balance-sheet of the trading fund for 1915 was as follows:—

Liabilities.		Assets.	
	£		£
Due to other funds... ..	19,399	Materials, stock, &c. ...	23,167
Sundry creditors... ..	12,174	Sundry debtors	16,003
Excess of Assets... ..	23,137	Bank balance and cash... ..	15,540
Total	£ 54,710	Total	£ 54,710

Only one municipality showed an excess of liabilities, and the position is therefore satisfactory.

The final statement is the balance-sheet of the loan fund for 1915:—

Liabilities.		Assets.	
	£		£
Loans current	139,581	Land and buildings	9,943
Interest accrued not paid ...	15,586	Steam plant	15,508
Other	3,994	Dynamos... ..	7,414
Excess of Assets	279	Cables, poles, &c.	72,009
		Due from other funds	28,562
		Bank balance and cash	6,698
		Other	19,306
Total	£ 159,440	Total	£ 159,440

POLLS OF RATEPAYERS.

Under the Local Government Act, before certain proposals can be brought into effect, a vote of the ratepayers must be taken in the municipality or shire concerned. For example, polls of ratepayers must be held on proposals to unite two or more adjoining areas; to unite part or parts of an area to the whole or part or parts of another area; for levying special or local rates, and whether such rates shall be raised on the unimproved or the improved capital value. If the vote be favourable, the council of either a shire or municipality may be granted the right to exercise special powers on a number of minor subjects, such as the regulation of buildings to be erected, the suppression of public nuisances, and the establishment and maintenance of bands, gardens, libraries, amusement places, &c. A municipality may submit to its ratepayers questions as to the desirability of raising a loan, and whether the rate should be levied on a particular part of the municipality, and on the unimproved or improved capital value. Shire ratepayers are allowed to decide whether a portion of the Shire shall be proclaimed an "urban area."

The ratepayers' roll contains the names of owners or lessees of ratable property, of managers, &c., of public companies which own ratable property, and of lessees of ratable Crown land.

An analysis of the voting for the period from the institution of Local Government in 1906 to the 30th June, 1913, particulars of which were given in a previous issue of this publication, and which are the latest available, disclosed the fact that in the majority of the districts the ratepayers took little interest in matters of local importance, as the average proportion of ratepayers who voted was only 22 per cent. in municipalities, and 33 per cent. in shires.

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE.

In March, 1888, the Government passed an Act establishing a Board of Administration, under the title of the Metropolitan Board of Water Supply and Sewerage, to regulate the water supply and sewerage services in the county of Cumberland, including those under the control of the City Council. The management of the former service was transferred to the Board in May, 1888, and of the latter in September, 1889. The total length of water mains taken over was 355 miles, and on 30th June, 1916, this had increased to 2,345 miles, inclusive of trunk and arterial mains. There were 70½ miles of sewers in 1889, lengthened to 1,022 miles of sewers, and 54 miles of stormwater drains in 1916.

The Board consists of seven members, three of whom are appointed by the Government, two by the City Council, and two by the suburban and country municipalities within the county of Cumberland supplied with water. The Board is subject to the general control of the Minister for Works—a provision considered necessary, as the Government advances the whole of the money for the construction of the works, the amount so advanced constituting part of the public debt of the State.

METROPOLITAN WATER SUPPLY.

As early as 1850 authority was given by the Legislative Council to the City Corporation for the construction of water and sewerage works, and a system of water supply from the Lachlan, Bunnerong, and Botany Swamps was adopted. By this scheme the waters of the streams draining these swamps were intercepted at a point near the shore of Botany Bay. A pumping plant was erected there, and the water raised to Crown-street

reservoir, 141 feet above the level of the sea, thence into Paddington reservoir, at an elevation of 214 feet above sea-level; and to Woollahra, 282 feet above sea-level, the cost of these works being £1,719,565. This system has since been superseded by the Upper Nepean system, the management of which was transferred in 1888 to the Metropolitan Board of Water Supply and Sewerage.

The sources of supply under the existing system are the waters of the Nepean, Cataract, and Cordeaux Rivers, draining an area of 347 square miles, a catchment enjoying a copious and regular rainfall. The off-take works are built at a height of 437 feet above the level of the sea, and the water flows by means of tunnel, open canal, and wrought-iron aqueducts to Prospect Reservoir, a distance of 40 miles from the farthest source of supply. The conduits above Prospect Reservoir have a maximum delivery of 150,000,000 gallons per day, and for 10 miles below this reservoir the capacity of the canals and pipes is 50,000,000 gallons. For the last 11 miles the water is conveyed by two 48-inch mains. In this work there are 63½ miles of tunnels, canals, and pipes.

Notwithstanding the size of Prospect Reservoir, it was found in 1902—a very dry year—that the supply was not sufficient for the growing needs of the metropolis. The Government therefore decided to build the Cataract Dam, which was completed in 1908, the catchment area above the dam being about 50 square miles. The water flows from this dam down the Cataract River to a weir at Broughton's Pass, where it enters a tunnel previously existing, and is conveyed by a system of open canals to the Prospect Reservoir. The total distance from Cataract to Sydney, *via* Prospect, is 66½ miles.

The dimensions of the Prospect and Cataract reservoirs are as in the following statement:—

Dam.			Height above Sea-level.	Area.	Capacity.	Length of Dam.	Width at top.	Height.
			ft.	acres.	gallons.	ft.	ft.	ft.
Prospect	...	...	196·7	1,266½	11,029,180,000*	7,300	30	85½
Cataract	...	...	950	2,200	20,743,196,475	811	16½	160

* When full, about half this quantity is available by gravitation.

From Prospect the water flows 5 miles by open canal to the Pipe Head Basin, thence 5 miles by 6-feet wrought-iron and steel pipes to the Potts' Hill Balance Reservoir, which has a capacity of 100,000,000 gallons, and covers 24½ acres. This reservoir was designed to tide over any interruption in the supply from Prospect, as well as to prevent fluctuation at the head of pressure. A by-pass is laid along the floor to enable mains to deliver water to Sydney direct.

At Potts' Hill the water passes through a series of copper-gauze screens, and is then conducted by two 48-inch mains and three smaller mains to the reticulated area south of Port Jackson. At Lewisham a bifurcation takes place in one of the 48-inch mains; one branch supplying the Petersham Reservoir, the other continuing to Crown-street. The Petersham Reservoir is 166 feet above high-water mark, is built of brick, and has a capacity of 2,157,000 gallons. The other 48-inch main, laid in 1893,

delivers water direct from Potts' Hill to Crown-street. These two trunk mains are connected at Petersham as an intermediate spot. The Crown-street Reservoir is 21 miles from Prospect. It is of brick, and contains 3,250,000 gallons, the top water-level being 141 feet above high-water mark.

On account of the elevation of parts of the reticulated area, pumping is necessary for the purpose of supplying the upper zones, and no less than 8,943 million gallons were raised at the various stations during the twelve months ended June, 1916, representing 62·37 per cent. of the total quantity discharged from Prospect. The pumping expenses, including the cost of second lifts, amounted in the aggregate to £43,996. At Crown-street is situated the main pumping station, where are erected three sets of compound high-duty pumping engines. A covered reservoir, of a capacity of 18,500,000 gallons, has been constructed in the Centennial Park at a height of 245 feet, for the purpose of ensuring a larger bulk of water within the city limits. At Ashfield there is a wrought-iron tank at an elevation of 223 feet above high water, with a capacity of 1,000,000 gallons. This tank is supplied from the Centennial Park Reservoir by a main, and provides for the higher part of the district. Vacluse Reservoir, at a height of 313 feet, is connected with Waverley, and supplies a district of about 1,200 acres around Vacluse and South Head. It has a diameter of 107 feet, a depth of 18 feet, and its capacity is 1,000,000 gallons.

North Sydney receives its supply from Potts' Hill, *via* Ryde, where there is a reservoir containing 2,000,000 gallons, from which the water is pumped into a 1,000,000-gallon tank at Ryde village, 234 feet above sea-level, and, by a continuation of the same main, into a pair of tanks, of a joint capacity of 3,000,000 gallons, at Chatswood, at an elevation of 370 feet above high-water mark. Water can be lifted direct from Ryde to Wahroonga and Pymble, or may be re-pumped from Chatswood, where a small pumping station has been erected. There are two tanks of 1,000,000 and 40,000 gallons capacity at Wahroonga, $7\frac{1}{2}$ miles distant, at elevations of 717 and 706 feet above sea-level respectively, whence the water flows as far as Hornsby, 13 miles to the north-west of Port Jackson. At a height of 567 feet a concrete reservoir of a capacity of 500,000 gallons has been constructed at Pymble. From this reservoir the districts between Pymble and Chatswood are served, thus reducing the abnormal pressure by reason of the supply being from so great a height as Wahroonga.

From the Ryde tank the districts of Ryde, Gladesville, and Hunter's Hill are supplied; while a 9-inch main extends over the Parramatta and Iron Cove bridges to supply Balmain. An elevated tank, at a height of 354 feet, with a capacity of 72,800 gallons, and a reservoir, with a capacity of 1,925,000 gallons, 302 feet above sea-level, have been erected at Mosman.

The districts of Campbelltown and Liverpool are supplied from the main canal by gravitation. At the latter place, a 4,000,000-gallon earthen reservoir has been constructed, and a tank with a capacity of 250,000 gallons, for the purpose of tiding over any interruption in the flow from the canal. Other districts lying nearer Sydney, *viz.*, Smithfield, Granville, Auburn, and Rookwood, are also supplied *en route*; and at Smithfield there is a 100,000-gallon concrete tank, the top water of which is 175 feet above sea-level. At Penshurst there is a tank 270 feet above sea-level, with a capacity of 1,000,000 gallons, and one 300 feet high, capable of holding 1,500,000 gallons. Works for the supply of water to the towns of Camden and Narellan, from a point on the canal near Kenny Hill, were completed in October, 1899. In 1893, the Board assumed control of the Richmond

waterworks, in 1902 of the Manly works, and in 1903 of the Wollongong works. Manly is also connected with the metropolitan system by a main from Mosman, crossing Middle Harbour.

The following statement shows the number of houses in the metropolitan area supplied with water during the last ten years:—

Year ended 30th June.	Houses Supplied.	Average Daily Supply.	Total Supply for Year.	Average Daily Supply.	
				Per House.	Per Head.
	No.	gallons.	gallons.	gallons.	gallons.
1907	120,782	22,912,600	8,263,104,000	189	37·9
1908	124,083	24,567,500	8,967,135,000	197	39·5
1909	128,444	25,911,400	9,457,660,000	201	40·3
1910	133,788	26,903,200	9,819,652,000	201	40·2
1911	139,237	29,006,700	10,587,434,000	208	41·7
1912	146,236	30,354,890	11,079,509,000	207	41·5
1913	155,213	32,594,200	11,897,000,000	209	42·0
1914	166,112	36,539,700	13,337,000,000	220	44·0
1915	175,758	35,909,589	13,107,000,000	204	40·9
1916	183,598	39,380,000	14,374,000,000	214	42·9

The rate levied for water is 6d. in the £ on the assessed annual value of ratable property in the Metropolitan district, while the charge per meter is 11d. per 1,000 gallons up to 10 millions, 10d. from 10 millions to 20 millions, and 9d. over 20 millions. The revenue from the Water Service Branch during the year ended 30th June, 1916, exclusive of the country towns, was £470,744, and the expenditure, including interest on capital, £426,545. The net revenue showed a return of 4·24 per cent. on the capital debt of £7,192,472.

The following statement gives the financial transactions of the Metropolitan Water Supply for each of the last ten years:—

Year ended 30th June.	Capital cost— interest- bearing.	Revenue.	Working expendi- ture.	Interest.	Net return after paying working expenses.	Net profit after paying working expenses and interest.
	£	£	£	£	per cent.	£
1907	4,902,463	275,591	67,593	176,170	4·24	31,828
1908	5,009,012	283,410	75,016	183,033	4·16	25,361
1909	5,146,302	267,519	80,281	185,591	3·64	1,647
1910	5,286,917	284,943	93,027	184,486	3·63	7,430
1911	5,420,813	299,442	99,355	192,486	3·69	7,601
1912	5,606,268	329,605	112,958	198,443	3·86	18,204
1913	5,907,125	361,187	126,795	200,918	3·96	33,474
1914	6,257,976	410,823	145,948	223,145	4·23	41,730
1915	6,644,289	441,966	159,687	235,949	4·24	46,330
1916	7,192,472	470,744	165,210	261,335	4·24	44,199

In addition to the city and suburbs, various country towns are supplied with water by the Metropolitan Board, and their accounts are kept distinct from those of the metropolis. The works at Richmond and Wollongong were constructed under the Country Towns Water Supply and Sewerage Act, and subsequently handed over to the Board; while the districts of Campbelltown, Camden and Narellan, and Liverpool, receive the water by gravitation from the upper canal at Prospect. The following table shows particulars of the capital, receipts, and expenditure in the country districts during the year ended 30th June, 1916:—

District.	Capital Cost.	Revenue.	Annual Liability.			Total.
			Interest and instalment required to pay off cost of reticulation in 100 years.	Maintenance, including proportion of Head Office expenses.	Charges for water supplied from Canal.	
	£	£	£	£	£	£
Campbelltown	12,753	1,304	461	343	206	1,010
Liverpool	50,791	3,479	1,837	595	565	2,997
Camden and Narellan	11,539	749	417	209	287	913
Richmond	16,778	992	607	796	...	1,463
Wollongong	186,730	8,333	6,752	2,980	...	9,732
Total	278,591	14,857	10,074	4,923	1,058	16,055

The capital cost of the Liverpool service has increased owing to the expenditure on the supply to the military and concentration camps, and the revenue and annual liability figures have also increased accordingly.

THE HUNTER DISTRICT WATER SUPPLY.

The water supply works of the Lower Hunter were constructed by the Government under the provisions of the Country Towns Water Supply and Sewerage Act of 1880. In 1892, under the authority of a special Act, a Board was established on similar lines to those of the Metropolitan Water and Sewerage Board, the number of members being the same—three being nominated by the Governor, one elected by the Municipal Council of Newcastle, two by the adjacent municipalities, and one by the municipalities of East and West Maitland and Morpeth. The following districts are within the area of the Board's jurisdiction:—

Municipalities—

Adamstown, Carrington, Greta, Hamilton, Lambton and New Lambton, East and West Maitland, Merewether, Morpeth, Newcastle City, Plattsburg, Wallsend, Waratah, Wickham.

Shires—

In Bolwarra Shire: Bolwarra, Lorn.

In Cessnock Shire: Aberdare, Abermain, Abermain Government Township, Cessnock, South Cessnock, Bellbird, Hebburn, Heddon Greta, Homeville, Kurri Kurri, Mayfield, Neath, Oakhampton, Rutherford, Telarah, Weston.

In Lake Macquarie Shire: Argenton, Boolaroo, Spier's Point, Teralba, West Wallsend.

In Tarro Shire: Hexham and Ash Island, Minmi, Morpeth Road, Pelaw Main, Stanford Merthyr, Tenambit.

The Government Railways and Tramways' properties, nine in number, are also served by the Board.

The supply of water for the district is pumped from the Hunter River, about a mile and a half up stream from the Belmore Bridge, West Maitland. The pumping engines are situated above flood-level, on a hill about 44 chains from the river. At the pumping station there is a settling tank of 1,390,500 gallons; also six filter-beds, 10,000 square feet each, and one of 15,000 square feet, a clear-water tank of 589,500 gallons capacity, and a storage reservoir of 172,408,100 gallons available capacity. The filtered water is pumped from the clear-water tank into two summit reservoirs, one at Rutherford and one at Buttai. The former, connected by a 10-inch and 12-inch main, with a capacity of 500,000 gallons, supplies East Maitland, West Maitland, Morpeth, Lorn, Bolwarra, Campbell's Hill and neighbouring places. Buttai Reservoir is fed by two rising mains, one a riveted steel pipe, 20½ inches diameter, the other a 15-inch cast-iron main, 5½ miles in length; it has a capacity of 1,051,010 gallons, and supplies Newcastle and environs. Twelve district reservoirs, which are supplied from Buttai, nine by gravitation and three by re-pumping, receive water for distribution.

The length of the mains when the Board was established was 134 miles and 76 yards; at 30th June, 1916, it had been increased to 411 miles and 931 yards.

Particulars relating to the water supply of the Board are given below. A water rate of 10d. in the £ is payable on the assessed annual value of all properties over £12, but if valued at less than £12, the rate is 10s. per annum. The charge by meter is 2s. per 1,000 gallons, and extra charges are made for water used for other than domestic purposes, the rates on which services range from 10s. to 40s. per annum:—

Year ended 30th June.	Properties Supplied.	Supply.		Average Daily Supply.	
		Daily average.	Total.	Per Property.	Per Head.
	No.	gallons.	gallons.	gallons.	gallons.
1907	13,569	1,479,400	539,965,000	109	21·8
1908	14,457	1,654,100	603,755,000	114	22·8
1909	15,679	1,766,300	644,689,000	113	22·5
1910	16,446	1,650,700	602,497,000	100	20·1
1911	17,164	1,849,900	675,214,000	108	21·5
1912	17,907	2,026,100	739,539,000	114	22·7
1913	18,405	2,366,300	863,692,000	129	25·7
1914	19,575	2,791,300	1,018,810,000	143	28·5
1915	20,709	2,859,000	1,043,547,000	138	27·6
1916	22,056	3,507,500	1,283,754,000	159	31·8

The funds necessary for the maintenance and management of the water supply and sewerage services, as well as the sum required to pay interest on the capital debt, are obtained by rates levied on the properties situated in the districts benefited by the systems. The assessments of the Municipal Councils are generally accepted by the Boards as the values on which to strike their special rates. In cases of heavy consumption of water, a charge is made according to the quantity used; but fixed charges are imposed for the use of water in certain trades and callings,

for gardens, and for animals. The following table shows the financial position for the period 1907 to 1916:—

Year ended 30th June.	Estimated Capital Debt.	Revenue.	Expenditure.*	Return on Estimated Capital Debt.
	£	£	£	per cent.
1907	398,618	41,822	38,886	6·25
1908	454,199	43,609	39,664	4·37
1909	474,485	43,395	41,184	3·90
1910	485,967	46,767	43,126	4·17
1911	495,747	45,711	45,420	3·55
1912	510,897	47,788	47,920	3·53
1913	531,969	53,673	49,042	4·42
1914	567,842	66,323	52,994	5·73
1915	601,983	68,611	55,383	5·53
1916	634,265	79,507	58,436	6·75

* Including Interest and Instalments to Sinking Funds for Renewal of Works.

METROPOLITAN SEWERAGE WORKS.

The first sewerage works at Sydney were begun in 1853; and in 1889, the date of transfer to the Board, there were 70½ miles of old city sewers in existence. The original scheme was designed on the "combined" system, by which street-surface water as well as sewage was removed. The works comprised five main outfalls discharging into the harbour at Blackwattle Bay, Darling Harbour, Sydney Cove, Fort Macquarie, and Woolloomooloo Bay. The pollution of the harbour, consequent on these outlets, led to the appointment of a Commission of Inquiry, and the outcome of the labours of the Commission was the adoption of the present system.

This system consists of three main outfalls—the northern, southern, and western; the northern discharges into the Pacific Ocean near Bondi, and the southern and the western discharge into the sewage farm at Webb's Grant, near Botany Bay. The northern system receives sewage from Waverley, Bondi, Woollahra, Double Bay, Darling Point, Rushcutter's Bay, Elizabeth Bay, and parts of Woolloomooloo.

The southern main outfall commences at a point on the north side of Cook's River, near Botany Bay, and receives the drainage from Alexandria, Waterloo, Erskineville, Newtown, and portions of the Surry Hills district. The inlet-house, into which the sewage passes, is fitted with the latest machinery for straining the sludge, and for ejecting the fluid after filtration. Storm-water channels are also constructed at various points to carry off the superfluous water after heavy rainfalls.

The western outfall, which provides for the western suburbs, starts at a receiving chamber in the Rockdale end of the sewage farm, from which it runs to another chamber about a quarter of a mile to the north-east of Muddy Creek, and thence to a penstock chamber at Marrickville on aqueducts over Wolli Creek and Cook's River. The latter chamber receives the discharges from the eastern, northern, and western branch sewers, and drains part of Marrickville, Petersham, Stanmore, Newtown, Leichhardt, Annandale, Camperdown, Summer Hill, Ashfield, Canterbury, Enfield, Burwood, Five Dock, and Concord. A branch outfall has been constructed at Coogee, which discharges into the ocean, and serves the districts of Randwick, Kensington, and Coogee. On the northern side of the city extensive works have been completed; in the

borough of North Sydney septic tanks were built in 1899 to deal with the sewage matter; and at Middle Harbour, Mosman, and Manly, ample provision has been made for the sanitation of the districts.

The subjoined statement gives the transactions relating to Metropolitan Sewerage during the ten years ended 30th June, 1916:—

Year ended 30th June.	Capital cost—interest-bearing.	Revenue.	Working expenditure.	Interest.	Net return after paying working expenses.	Net profit(+) or loss (–) after paying working expenses and interest.
	£	£	£	£	per cent.	£
1907	3,922,514	217,864	62,141	140,980	3·96	(+) 14,743
1908	4,053,591	216,258	64,020	148,142	3·75	(+) 4,096
1909	4,225,239	214,212	68,574	151,317	3·44	(–) 5,679
1910	4,351,381	223,131	70,851	151,943	3·49	(+) 337
1911	4,496,290	234,208	79,636	159,070	3·43	(–) 4,498
1912	4,769,449	250,826	82,246	166,771	3·53	(+) 1,809
1913	5,083,263	268,292	91,094	171,957	3·48	(+) 5,241
1914	5,448,968	297,840	104,543	193,389	3·54	(–) 92
1915	5,775,094	344,489	111,809	205,928	4·02	(+) 26,752
1916	6,114,072	363,799	120,244	224,551	3·98	(+) 19,004

The sewerage rate for the city of Sydney and the eastern suburbs up to 1903 was 7d. in the £, the northern and the western suburbs being rated at 1s., but in 1904 a uniform rate of 11d. was imposed. In 1907 it was reduced to 10d. in the £, and in 1908 to 9½d., the latter being the rate ruling in 1916.

The length of sewers in the Metropolitan District and the houses served during the last ten years are shown below:—

Year ended 30th June.	Houses connected.	Length of Sewers.	Length of Storm-water Drains.	Length of Ventilating Shafts.	Length of Sewers Ventilated.
	No.	miles.	miles.	feet.	miles.
1907	91,940	684·38	46·15	281,885	654
1908	96,384	724·37	46·94	286,000	684
1909	99,442	760·16	47·30	299,910	714
1910	104,029	793·55	47·82	361,200	761
1911	108,012	825·20	48·85	376,900	795
1912	110,737	863·29	49·69	382,654	809
1913	114,690	890·53	52·24	401,344	853
1914	118,643	930·06	53·15	408,778	870
1915	124,759	972·14	53·65	429,364	915
1916	130,638	1,022·19	54·98	443,134	953

NEWCASTLE AND SUBURBS SEWERAGE WORKS.

The sewerage scheme for the Hunter District has its outfall at Merewether Gulf, some distance south from Newcastle. Two gravitation sewers which branch from the main, one at Merewether and the other in

the city of Newcastle, have been completed and transferred to the control of the Hunter District Water and Sewerage Board, also the reticulation sewers for the areas capable of being drained by gravitation. The districts served so far are Newcastle, Adamstown, Hamilton, Merewether, Waratah, and Wickham. The first transfer was made in July, 1907, and the particulars of cost, revenue, and expenditure to 30th June, 1916, are shown below:—

Year ended 30th June.	Capital cost— interest-bearing.	Revenue.	Working expenditure (including Sinking Fund).	Interest.	Net return after paying working expenses.	Net profit (+) or loss (–) after paying working expenses and interest.
	£	£	£	£	per cent.	£
1907	55,763	.....	.....	.....	.....	.....
1908	65,017	17	627	2,374	.....	(–) 2,984
1909	87,127	745	1,461	2,779	.....	(–) 3,495
1910	128,655	6,192	2,303	3,814	3·02	(+) 75
1911	170,151	8,975	4,217	5,368	2·79	(–) 610
1912	246,915	10,999	6,002	7,331	2·45	(–) 2,334
1913	301,809	12,472	7,722	9,244	1·79	(–) 4,494
1914	331,694	14,622	8,743	11,274	1·77	(–) 5,395
1915	358,480	17,212	9,045	12,281	2·28	(–) 4,114
1916	411,732	18,582	9,820	14,117	2·13	(–) 5,355

The sewerage rate—1s. in the £ on the annual rental value—came into force on 1st January, 1909, and this was the rate ruling in 1916. As the following table shows, the length of sewers under the control of the Board on 30th June, 1916, was 83 $\frac{1}{2}$ miles, and 7,240 properties were connected:—

Year ended 30th June.	Properties connected.	Length of Sewers.	Ventilating Shafts.	Length of Sewers Ventilated.
	No.	miles.	No.	miles.
1908	52	23·59	.....	.....
1909	228	23·67	183	11·45
1910	661	29·50	183	17·28
1911	1,465	29·91	285	17·68
1912	2,424	37·14	418	37·14
1913	3,457	51·30	623	51·30
1914	4,887	56·75	733	56·75
1915	6,151	63·23	791	63·23
1916	7,240	83·81	808	83·81

ROADS AND BRIDGES.

Main roads in New South Wales were first formed to connect the towns of Parramatta, Liverpool, Windsor, and Penrith with Sydney. All access to the interior of the country was considered barred by the apparently insurmountable sandstone precipices rising on the farther side of the Nepean, and until the year 1813 no effort to cross the mountains was attended with success. In that year, however, after a protracted season of drought, involving heavy losses of stock, the settlers recognised that the future of the country depended on an extension of the pastoral area, and three explorers, Blaxland, Lawson, and Wentworth, again essayed the task of finding a way over the mountains. After encountering tremendous difficulties, they succeeded in crossing the range, and discovered the rich pastures of the Bathurst Plains. Shortly after their

return, Governor Macquarie despatched a party of surveyors to determine the practicability of making a road. The report was favourable, the construction of a track was at once begun, and the Great Western Road was completed as far as Bathurst on 21st January, 1815.

The opening up of the fertile lands around Bathurst by means of this mountain road gave such an impetus to settlement that it was found impossible to keep pace in the matter of road-making with the demands of the settlers. The authorities, therefore, for many years confined their attention to the maintenance of roads already constructed, and extended them in the direction of the principal centres of settlement. Had the progress of settlement subsequent to 1850 been as slow as that of the preceding years, this system would have sufficed; such, however, was not the case. The discovery of gold completely altered the circumstances, and during the period of excitement and change which followed, so many new roads were opened, and traffic increased to such an extent, that the general condition of the public highways was by no means good. The modern system of road-making may be said to have begun in the year 1857, consequent on the creation of the Roads Department; it was not, however, until 1864 that the whole of the roads, both main and subordinate, received consideration by the Government.

The principal main roads are:—

Northern Road—length, 405 miles, from Morpeth to Maryland, on the Queensland border.

Western Road—length, 513 miles, from Sydney, through Bathurst, Orange, and many other important townships, to the Darling River, at Bourke.

Southern Road—length, 385 miles, from Sydney to Albury. This road was, before the construction of the railway, the great highway between Sydney and Melbourne.

South Coast Road—length, 250 miles. This road after leaving Campbelltown, ascends the coast range, along the top of which it runs as far as Coal Cliff. It then traverses the Illawarra district, parallel to the coast, and passes through the rich lands watered by the Shoalhaven, Clyde, and Moruya Rivers, as far as Bega, whence it extends as a minor road to the southern limits of the State.

In no case has any of these roads the importance which it possessed before the opening of the railways, which for the greater part follow the direction of the main roads, and attract nearly all the through traffic. Thus many roads on which heavy expenditure has taken place have been more or less superseded, and the opening of new roads has been rendered necessary to act as feeders to the railways from outlying districts.

CONTROL OF ROADS AND BRIDGES.

Prior to 1907, when the Local Government Act came into effect, the State was divided into road districts, each of which was placed under the supervision of an officer directly responsible to the Commissioner for Roads. These officers had under their care the greater part of the roads and bridges of the State outside the incorporated areas, as well as a portion of those within such limits. The road trusts had the supervision of the expenditure of certain grants for the maintenance of roads in districts chiefly of minor importance, as well as some important roads in the vicinity of the metropolis.

On 1st January, 1907, the administration of the bulk of the works under the control of the Roads and Bridges Department (with the exception of those in the unincorporated areas of the Western Division, and certain bridges and ferries proclaimed as "national works") were transferred by the operation of the Local Government Act to the shires and municipal councils.

The Act authorises payments by way of endowment to municipalities and shires, the minimum endowment payable to shires being fixed at £150,000 per annum, to be distributed in accordance with a classification made every third year. It is provided also that the Minister for Works may withhold payment of endowment from a council if his requirements in respect of main roads are not complied with.

Between 1906 and 1912 the amount of endowment allotted to shires rose from £150,000 to £360,000 approximately, but the expenditure on the important roadways has not been sufficient to maintain them in a serviceable condition. It was decided, therefore, to amend the conditions under which Government assistance is granted, by reducing the amount of general endowment for each of the years 1912-15 to the minimum £150,000, and distributing an additional sum as a special endowment for the upkeep of the main roads.

LENGTH OF ROADS.

The length of roads under Government control on 30th June, 1906, was 48,311 miles, while 195 miles were under the care of road trusts, and 1,338 miles within the municipal areas were subsidised by the Government, making a total of 49,844 miles. There were also about 8,000 miles of roads and streets belonging to the municipal councils. In addition to the roads mentioned, there were about 1,500 miles of mountain passes, many of which presented most formidable difficulties, and their construction reflects great credit upon the engineering skill of the Department, which for so many years designed and supervised the construction and maintenance of the roads and bridges of the State. Since 1906, statistics of roads, streets, bridges, and public ferries are collected triennially, the date of the latest available returns being 1915. In that year the length of roads in the State was, approximately, 97,843 miles, of which 31 miles were controlled by the Government, 10,262 miles by the municipalities, 81,075 miles by the shires, and 6,475 miles were in the unincorporated areas of the Western Division. The nature of these roads may be seen in the following statement :—

Divisions.	Metalled, Gravelled, Ballasted, &c.	Formed only.	Cleared only.	Natural surface.	Total.
	miles.	miles.	miles.	miles.	miles.
National	8	23	.....	.....	31
Municipalities	4,077	1,968	2,143	2,074	10,262
Shires	14,342	10,404	24,731	31,598	81,075
Western Division	100	196	2,752	3,427	6,475
Total	18,527	12,591	29,626	37,099	97,843

BRIDGES.

Many of the earliest bridges erected in the State were built of stone, and are in existence still. Those erected in the period following the extension of settlement to the interior were principally of timber, and have since been re-

placed after an average life of about twenty-five years. Nearly all the large bridges of recent date are of iron and steel, and some of them have been erected under difficult engineering conditions, owing to the peculiarity of the river flow in certain parts of the country.

NUMBER OF BRIDGES AND FERRIES.

On 1st January, 1907, the date of the inception of the Local Government Act, the bridges of 20 feet span and over, including those in course of construction, numbered 3,575. Of these, 256 bridges, of an aggregate length of 101,416 feet, which by reason of their cost, size, and extra-local importance would constitute a strain on the resources of the local councils, were proclaimed as "national works," to be maintained by the Government.

Where local conditions and limited traffic have not favoured the erection of a bridge, a punt or ferry has been introduced. The most important ferries which are worked otherwise than by hand, have been proclaimed as national services. Prior to 1st December, 1907, it was the practice to charge a small fee for ferry transit; but on that date tolls were abolished, and public ferries are now free.

The latest particulars of the bridges, culverts, and ferries of the State are shown below:—

Classification.	Bridges over 20 feet span.		Culverts.		Ferries.
	Number.	Length.	Number.	Length.	Number.
		ft.		ft.	
National Works	275	105,330	.....	.....	16
Municipalities	766	40,626	4,385	177,300	14
Shires	3,523	211,770	34,668	317,139	96
Western Division (unincorporated)	93	12,530	153	1,709	5
Total	4,657	370,256	39,206	496,198	131

GOVERNMENT EXPENDITURE ON ROADS, BRIDGES, &c.

Although roads as the main arteries of traffic from the metropolis to the interior have been superseded by the railways, nevertheless they are still the sole means of communication throughout a large part of the interior, and serve as most valuable feeders to the railway system of the country. No revenue is derived directly from roads, but their indirect advantages to the country have been very great.

On 1st January, 1907, the administration of all roads, bridges, ferries, wharfs, and public watering places (other than those classed as national works and services), of municipalities and shires within the Eastern and Central Divisions, and the financial responsibilities therewith, were transferred under the Local Government Act to the municipal and shire councils. The funds of both shires and municipalities may, however, be subsidised, and, as previously mentioned, shires are entitled to receive annually a total sum of at least £150,000 from the State.

In addition to the endowment and grants, the Government is still responsible for the administration and expenditure on account of public works

and services within the Western Division, and such other works in the Central and Eastern Divisions as have been proclaimed "National."

In view of the transference of the administration of roads and bridges, with the exception of those noted previously, from direct State to local government control, the following return will be of interest. It shows the Government expenditure on works of a local character, such as roads, bridges, punts, ferries, public watering-places, &c., before and after the inauguration of a general system of local government:—

Year ended 30th June.	Expenditure on Services.	Endowments and Grants, including Main Roads.			Total Expenditure.
		Shires.	Municipali- ties.	Total.	
	£	£	£	£	£
1905	495,672	.....	7,048	7,048	502,720
1906	497,061	.....	4,944	4,944	502,005
1907	412,331	142,960	84,355	227,315	639,646
1908	165,798	249,629	62,165	311,794	477,592
1909	120,382	246,564	19,838	266,402	386,784
1910	127,287	306,100	21,981	328,081	455,368
1911	133,881	327,561	30,292	357,853	491,734
1912	141,891	358,919	19,243	378,162	520,053
1913	143,843	289,693	15,800	305,493	449,336
1914	251,730	346,973	50,742	397,715	649,445
1915	175,726	288,053	40,314	328,367	504,093
1916	114,011	353,048	62,457	415,505	529,516

EXPENDITURE ON ROADS, &C., BY MUNICIPAL AND SHIRE COUNCILS.

In the subjoined statement the expenditure by municipal and shire councils on behalf of roads, &c., is shown for the year 1915:—

						£
City of Sydney—						
Salaries—Road Maintenance	...	...	...	...	...	1,490
Maintenance of Streets	...	...	...	...	...	51,258
Footpaths	...	...	...	...	...	23,387
Woodpaving	...	...	...	...	...	11,480
Gullies	...	...	...	...	...	6,777
Street-lighting	...	...	...	...	...	20,211
Street Watering and Sanding	...	...	...	...	...	9,304
Total						£ 123,907
Municipalities (other than Sydney)—						
Maintenance, Repairs, and Renewals...	...	...	...	...	...	328,828
Construction	...	...	...	...	...	91,057
Street and Gutter Clearing	...	...	...	...	...	49,270
Kerbing and Guttering	...	...	...	...	...	50,693
Footpaths and Gutter Bridges	...	...	...	...	...	67,569
Street-watering	...	...	...	...	...	15,806
Street-lighting	...	...	...	...	...	100,658
Other, including Tree-planting, &c.	...	...	...	...	...	9,462
Total						£ 713,343
Shires—						
General Fund—Maintenance and Construction	...	...	...	...	...	677,163
Local Fund—	...	...	...	...	...	5,147
Other Expenditure	...	...	...	...	...	11,315
Total						£ 693,625
Grand Total						£ 1,530,875

The grand total shown above does not include the interest payable on loans raised for permanent improvements, &c., the bulk of which has been expended on roads, &c.

The amount expended by municipalities, other than Sydney, on account of bridges was £10,447. In the shires the maintenance, repairs, renewals, &c., of bridges cost £16,395; whilst £27,309 was spent on construction. The cost of the upkeep of Pyrmont Bridge, previously a charge on the City Council, is now defrayed by the New South Wales Government.

COMMUNICATION BETWEEN SYDNEY AND NORTH SYDNEY.

An important consideration connected with the traffic of the metropolitan area is the question of providing improved means of communication between Sydney and North Sydney. The population of the North Shore districts of the harbour has increased at a great rate, and since provision has to be made for the conveyance of passengers and vehicles by steamers across the harbour, it can be understood that many difficulties of harbour navigation are caused by the numerous ferry steamers plying to and from the Circular Quay.

A Royal Commission in 1890 favoured a high-level bridge as the means of communication, but concluded that the time was not opportune for undertaking the connection. In 1896 a Select Committee of the Legislative Assembly reported in favour of a tunnel in preference to a bridge, but enabling Bills introduced into Parliament were not completed. Two years later amended schemes were submitted to Parliament without definite results.

Tenders were invited for designs for a bridge in 1900 and 1901, and in the latter year a design was approved by an Advisory Board, but action was suspended, owing to temporary financial depression.

The large increase in population on both sides of the harbour and the consequent congestion of traffic led to the appointment of a Royal Commission in 1908. In the report, furnished in March, 1909, the Commissioners expressed the opinion that it was expedient to promptly provide increased and improved facilities of communication, and that the best practical and most economical method of establishing such direct communication, and avoiding obstruction to harbour navigation, was by subways.

During the years 1909 to 1913 various proposals for communication between Sydney, and North Sydney were submitted to the Parliamentary Standing Committee on Public Works, with the result that the following scheme, submitted by the Chief Engineer, Metropolitan Railway Construction, was recommended in July, 1913:—

The construction of a bridge of the cantilever type extending from Dawes' Point to Milson's Point, and giving accommodation for four lines of railway—two to be used as tramways pending the electrification of the city railways; one footway, 15 feet wide; one motor roadway, 17 feet 6 inches wide; and one roadway, 35 feet wide. The distance across the proposed bridge and approaches is $1\frac{1}{4}$ miles, and a headway of 170 feet above water level is provided. The cost, including £100,000 for land resumption, was estimated at £2,750,000.

PARKS AND RECREATION RESERVES.

It has always been the policy of the State to provide the residents of municipalities and shires with parks and reserves for public recreation, and the city of Sydney contains within its boundaries a large extent of parks, squares, and public gardens. The most important are—Moore Park, where about 368 acres are available for public recreation, including the Sydney Cricket Ground, the Royal Agricultural Society's Ground, and the Zoological Gardens; the Botanic Gardens and Garden Palace Grounds, 65 acres, with the adjoining Domain, 86 acres, ideally situated on the shores of the Harbour, and Hyde Park, 39 acres, in the centre of the city. The total area covered is 654 acres, or 20 per cent. of the whole of the city proper. This does not include the Centennial Park, 552 acres in extent, situated on the outskirts of the city, formerly reserved for the water supply, but now used for recreation by the inhabitants of Sydney. This magnificent recreation ground has been cleared, planted, and laid out with walks and drives, and is a favourite resort of the citizens.

The suburban municipalities are also well served, as they contain, including the Centennial Park, about 4,060 acres of public parks and reserves, or about 4·4 per cent. of their aggregate area, dedicated to, and in some cases purchased for, the people by the Government.

In addition to these parks and reserves, the National Park, situated about 16 miles south of Sydney, and accessible by railway, was dedicated to the people in December, 1879. This park, with the additions subsequently made in 1880 and 1883, contains a total area of 33,747 acres, surrounding the picturesque bay of Port Hacking, and extending in a southerly direction towards the mountainous district of Illawarra. It is covered with magnificent virgin forests; the scenery is charming, and its beauties attract thousands of visitors.

Another large tract of land, designated Kuring-gai Chase, was dedicated in December, 1894, for public use. The area of the Chase is 35,322 acres, and contains portions of the parishes of Broken Bay, Cowan, Gordon, and South Colah. This park lies about 15 miles north of Sydney, and is accessible by railway at various points, or by water *viâ* the Hawkesbury River, several of whose creeks, notably Cowan Creek, intersect it.

In 1905 an area of 248 acres was proclaimed as a recreation ground at Kurnell, on the southern headland of Botany Bay, a spot famous as the landing-place of Captain Cook; and the Parramatta Park (252 acres) although outside the metropolis, may be mentioned on account of its historic interest.

In country districts, reserves have been proclaimed as temporary commons, and considerable areas have been dedicated from time to time as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries.

A State Nursery is maintained at Campbelltown, from which plants, trees, and shrubs are distributed to the various parks and reserves.

Under the Public Parks Act the Governor may appoint trustees of any lands proclaimed for the purposes of public recreation, convenience, health, or enjoyment. The trustees are empowered to frame by-laws for the protection of shrubs, trees, &c., upon the land vested in them, and to regulate the use and enjoyment of such land by the public.

RACE-COURSES.

No race meeting may be held on any race-course in New South Wales unless such race-course is licensed under the Gaming and Betting Act, 1912. When used for horse-racing or pony-racing the running ground of such race-course must not be less than six furlongs in circumference. A limitation is made in certain cases regarding the number of days in any one year on which meetings for horse-racing, pony-racing, and trotting races or contests may be held on a race-course.

During the year ended 31st December, 1916, there were 457 separate licenses issued for horse-racing, pony-racing, and trotting contests, the license fees received amounting to £1,159.

THEATRES AND PUBLIC HALLS.

Plans of buildings intended to be used for theatres and public halls must be approved by the Government. A license may be refused if the provisions of the Theatres and Public Halls Act, 1908, have not been complied with; or that alterations or additions to the building are necessary in order to provide for public safety, health, or convenience; or if it is considered that the building is not suitable for holding public entertainments or public meetings therein, or the site of such building is unsuitable. At 31st December, 1916, there were 1,640 licensed theatres and public halls in New South Wales, in which seating accommodation was provided for approximately 759,300 persons.

AGRICULTURE.

IN New South Wales the cultivation of plants indigenous to cold, temperate, and even tropical regions is possible on account of the wide range of **climate** and the diversity of fertile soils of varying characteristics in well defined regions of coast, tableland, declivity and plain.

Very few parts of the State are so barren or so little watered as to be unsuitable for cultivation; though the country essentially suitable for farming operations is situated in the Eastern and the Central Land Divisions, the whole area of which, with the exception of portions of the mountain chain, is capable of profitable agricultural exploitation. The ample rainfall within this region favours the successful cultivation under ordinary conditions of about 50,000,000 acres; and this area might be extended by the application of modern scientific methods relating to intensive cultivation. Wherever methods of irrigation are capable of application, semi-arid districts have proved fertile. There is, of necessity, a limit to the possibilities of efficient irrigation, but New South Wales has entered only upon the experimental stage.

The rainfall of the Great Western Plains Land Division is uncertain, and no reliance can be placed upon attaining payable results from agricultural pursuits; moreover, from the point of view of the grazier regarding cost, results, and markets, the pastoral industry presents superior attractions in this part of the State.

AREA UNDER CULTIVATION.

During the season 1915-16 an area of 7,041,934 acres, including grassed lands, was under cultivation, of which total the area under crops contained 5,794,835 acres, and that sown with grasses, 1,247,099 acres.

The progress of cultivation since 1881 is shown in quinquennial periods in the following table:—

Seasons ended June.	Average area under—		Acres per Inhabitant under—	
	Cultivation, Including Grasses.	Crops.	Cultivation.	Crops.
	acres.	acres.		
1881-85	746,017	662,085	0·91	0·81
1886-90	1,011,567	835,367	0·99	0·82
1891-95	1,398,199	1,048,554	1·18	0·88
1896-1900	2,252,649	1,894,857	1·73	1·46
1901-5	2,942,506	2,436,765	2·10	1·74
1906-10	3,575,873	2,824,253	2·34	1·84
1911-15	5,187,850	4,025,165	2·87	2·23
1916	7,041,934	5,794,835	3·77	3·10

Prior to 1881, exceedingly slow progress was made in agricultural development; the average cultivation per inhabitant in 1891-5, even including grass lands, was only a little over 1 acre, and the total area under crop did not reach a million acres until the season 1892-3. During the next six seasons expansion was considerably accelerated, and the recorded area increased to 2,000,000 acres. Since 1899 the rate of growth has been markedly slower; but for the season 1915-16 the area amounted to 7,041,934 acres, an advance of 2,604,710 acres, or 58·7 per cent., over 1911. The increase was due mainly to the patriotic response of the agricultural community to the appeal from the Imperial authorities for an increased supply of wheat, in order to carry on the War efficiently, to the favourable ploughing seasons, to the high prices of agricultural produce, and to the subdivision of large estates. The wheat yield was abnormally high, namely, 66,764,910 bushels, exceeding that of 1914, the highest previous record, when the yield was 38,020,381 bushels, by 28,744,529 bushels. But insufficiency of ocean freight, owing to the movements of troops, and to losses through submarine

warfare, which seriously menaced shipping facilities, retarded exportation; and, as a consequence, large quantities of wheat were spoiled by stress of weather, and thousands of bushels were destroyed by a plague of mice, which alone created greater devastation than all other causes put together.

The area actually under cultivation reached 1 acre per inhabitant in the 1889-90 season. During the next ten years the industry had so far developed that in 1900 the rate was slightly in excess of 2 acres per head; but until quite recently the cultivation per capita has remained practically stationary. The average during each of the three years 1911-13 was about $2\frac{1}{2}$ acres per head, though it has since advanced to $3\frac{1}{2}$ acres per inhabitant. The following statement shows, in decennial periods to 1910 and for the period 1910-15, the relative increases in population and in area under crop:—

	1870-80.	1880-90.	1890-1900.	1900-10.	1910-15.
Increase per cent. in population	50·0	50·0	21·6	20·1	15·6
Increase per cent. in area under crop	98·1	35·5	186·8	38·3	82·5

During the first ten years quoted above the crop area increased much more rapidly than the population. From 1880 to 1890 these conditions were reversed, and the population increased at a rate exceeding 41 per cent. that of the crop area; but during the next period, 1890-1900, cultivation increased at a rate of no less than 187 per cent., or nearly nine times that of the population. This increase was due mainly to the cultivation of large areas on holdings previously devoted to pastoral purposes. Since 1900 this phenomenal increase has not been maintained, and the decline in the rapidity of development has been due partly to the check induced by adverse seasons, but more materially to the increased attention given to dairying; nevertheless, in the period 1900-10 the area cropped increased by 90 per cent. more rapidly than the population. During the last five years of the period under review the rate of increase of the crop area was nearly five and a quarter times more rapid than that of the population.

The following statement gives particulars of the area under crops in the seasons 1905-6, 1910-11, and 1915-16, and shows the districts in which the greatest advances have been made.

Division.	Actual Area under Crops.			Index Numbers. (1905-6=100).	
	1905-6.	1910-11.	1915-16.	1910-11.	1915-16.
Coastal Belt—	acres.	acres.	acres.		
North Coast	109,704	96,980	95,024	88	87
Hunter and Manning	103,511	111,094	102,526	107	99
Cumberland	46,053	42,824	35,796	93	78
South Coast	51,009	56,327	45,257	110	89
Total	310,277	307,225	278,603	99	90
Tableland—					
Northern	68,362	78,286	80,597	115	118
Central	222,715	251,678	366,981	113	165
Southern	55,336	65,670	82,844	119	149
Total	346,413	395,634	530,422	114	156
Western Declivity—					
North-Western Slope	265,217	363,036	555,488	137	209
Central- „ „	412,578	518,670	890,105	126	216
South- „ „	442,855	630,223	1,126,381	142	258
Total	1,120,650	1,511,929	2,571,974	135	229
Central Plains—					
North	10,261	10,905	40,322	106	393
Central	287,437	269,900	593,714	94	206
Total	297,698	280,805	634,036	94	213
Riverina	745,183	871,195	1,769,478	117	237
Western Plains	17,860	15,133	10,322	85	58
All Divisions	2,838,081	3,381,921	5,794,835	119	242

It is evident from these figures that during the ten years between 1906 and 1916 there was a general increase throughout the State, with the exception of the Coastal Belt and the Western Plains; though the Division of the Central Plain experienced a set-back from 1907 to 1913, as did also various other districts.

The largest aggregate increase as compared with the figures shown for 1905-6 took place in the Division of the Riverina, and amounted to 1,024,295 acres of additional area brought under cultivation during the decade, which represented an advance of 237 per cent. The next largest aggregate increase was recorded for the South-Western Slope, and amounted to 683,526 acres. Taken as a whole, the territorial area of the Western Declivity showed an advance of 1,451,324 acres. The districts exhibiting the heaviest proportion of total cultivation in the year 1915-16 were the Riverina with 31 per cent., and the Western Declivity, with an aggregate of 44 per cent. in its three Divisions. The remaining 25 per cent. was distributed over the Coastal Belt, the Tableland, the Central Plains, and the Western Plains, only 0.18 per cent. of the area under crop throughout the State being credited to the last-named Division.

The great extension of cultivation since 1892 has been fostered by wheat-growing on large estates formerly devoted almost exclusively to grazing, by the added security against bad seasons afforded by wool and wheat-farming in conjunction, by the adoption of the system of farming on shares, and, more recently, by the subdivision of large holdings for closer settlement. To these causes must be added the purchase by the Imperial Government of the total surplus production of wheat for a term of years in advance at a fixed price.

In January, 1916, a Royal Commission was appointed to inquire into the rural, pastoral, agricultural and dairying interests in New South Wales, and the results of its labours were tabled in Parliament in August, 1917. This report, in dealing with the slow progress of agricultural settlement, affirms that whilst the avowed purpose of the various land Acts, particularly since the year 1861, was to settle a "thriving yeomanry" upon the suitable Crown lands of the State, achievement had fallen very far short of the anticipations of the promoters of such legislation, results indicating that the best of the rural holdings had passed into the hands of large private owners, who continued to use them principally for pastoral purposes.

The solution of the problem was made more difficult by the fact that the available area of suitable Crown lands was almost negligible, whilst no fewer than 81,531,984 acres had been placed practically beyond the control of the State at the end of June, 1916. It is mainly on these areas that future settlement must take place. An additional area of 77,245,268 acres is held under long leases, making a total of 158,777,252 acres, which are subject to private control, and could only be more intensively settled under the present system by resumptions, or by voluntary action of the present holders.

The Commission therefore recommended that arrangements should be made by the State to secure the co-operation of private landholders, and that agreements should be drawn up giving it the right of occupancy, with option of purchase, for a period of ten years, the State guaranteeing rent and the maintenance of improvements on behalf of probationary settlers. Under such a system the State would be able to establish returned soldiers, share-farmers, and other assisted settlers, upon the land.

CULTIVATION IN EACH DIVISION.

The following table shows the total area under crops, together with the total area of each Division, and the area in occupation, during the season 1915-16.

Division.	Total Area of Division.	Area under—			Proportion of area under Crops to—	
		Occupation in Holdings of 1 acre and over.	Crops.	Sown grasses.	Total Area.	Area under Occupation.
Coastal Belt—	acres.	acres.	acres.	acres.	per cent.	per cent.
North Coast	5,409,370	4,209,633	95,024	833,255	1·8	2·3
Hunter and Manning	10,390,920	6,308,578	102,526	168,026	0·9	1·6
Cumberland	1,070,989	523,649	35,796	3,991	3·3	6·8
South Coast	5,484,122	2,433,315	45,257	181,068	0·8	1·9
Total	22,355,401	13,478,175	278,603	1,186,340	0·5	2·1
Tableland—						
Northern	8,928,487	7,461,933	80,597	19,178	0·9	1·1
Central	8,989,259	6,305,266	366,981	7,430	4·1	5·8
Southern	7,913,500	6,471,159	82,844	1,990	1·0	1·3
Total	25,831,246	20,238,358	530,422	28,598	2·1	2·6
Western Declivity—						
North-Western Slope	9,813,555	8,807,420	555,488	3,537	5·7	6·3
Central „	6,252,567	5,169,995	890,105	1,624	14·2	17·2
South „	8,185,759	7,161,009	1,126,381	15,986	13·8	15·7
Total	24,251,881	21,138,424	2,571,974	21,147	10·6	12·2
Central Plains—						
North	10,030,901	8,178,671	40,322	502	0·4	0·5
Central	16,029,880	15,053,477	593,714	5,997	3·7	3·9
Total	26,060,781	23,232,148	634,036	6,499	2·4	2·7
Riverina	19,767,073	18,554,922	1,769,478	4,455	9·0	9·5
Western Plains	80,368,498	77,658,679	10,322	60	...	...
All Divisions	198,634,880	174,300,707	5,794,835	1,247,099	2·9	3·3

During the year 1915-16 nearly 3 per cent. of the total area of New South Wales was actually devoted to the growth of agricultural produce; and if the small extent of land upon which grasses had been sown for dairy-farming purposes be added to the area under crops, the proportion reaches only a little over 3·5 per cent., and represents about 3·76 acres per head of population. The proportion of the cultivated area on alienated holdings was 9·49 per cent. of the total area of alienated rural lands in holdings of 1 acre and over; of the area in occupation, 56,288,979 acres were alienated and 118,011,728 acres were leased from the Crown. The area of Crown lands under crops amounted to 450,880 acres only.

Purely agricultural settlements are confined to limited areas in the alluvial lands of the lower valleys of the coastal rivers, to parts of the Southern and Central Divisions of the Tableland, and to the irrigation settlements, the importance of which is increasing yearly; and crops are, to a large extent, cultivated in conjunction with grazing operations. Tenant occupancy, so general in the United Kingdom, is little known in New

South Wales, and of the total area under crop, 5,030,669 acres, or 86·8 per cent., were cultivated by owners, and 764,166 acres, or 13·2 per cent., were cultivated by tenant occupiers, including Crown land lessees.

In addition to the area shown as cultivated and under sown grasses, 73,210,055 acres were ringbarked and partly cleared and under native grasses; and 1,765,560 acres were ready for cultivation on alienated holdings, and this area consisted of 1,368,503 acres which had been cropped previously, 262,506 acres of new land cleared and prepared for ploughing, and 134,551 acres in fallow.

Cultivation is not confined to particular districts, but is conducted in all parts of the State. Some of the best land for producing cereals is in the hands of the pastoralists, so that farmers sometimes find themselves settled on country unsuited to the most efficient cultivation of their crops.

The county of Cumberland, which contains the densest population, has a large area cultivated in proportion to the area under occupation in holdings of 1 acre and upwards; but, in a general sense, the Riverina shows the largest relative area under cultivation, followed in order by the three Divisions of the Western Declivity and of the Tableland respectively. There was an increasing but not relatively important area cropped in the Division of the North-Central Plain, and still better results in the Central Plain, but in the Western Plains there was practically no cultivation. With the exception of the metropolitan county the Coastal Belt showed an increase in the acreage under crops.

RELATIVE IMPORTANCE OF EACH CROP.

The largest proportion of the area under crops is devoted to the cultivation of wheat, which in 1915-16 accounted for 72·2 per cent. of the total; the area for hay was 19·1 per cent., maize 2·7 per cent., for green food 2·8 per cent., and oats 1·0 per cent.

The following statement shows the cultivated area for each of the principal crops, at intervals since 1900-1, and the relative importance of each crop.

Crop.	Area.			Proportion per cent.		
	1900-1.	1910-11.	1915-16.	1900-1.	1910-11	1915-16.
	acres.	acres.	acres.			
Wheat	1,530,609	2,128,826	4,188,865	62·6	62·9	72·2
Maize	206,051	213,217	154,130	8·4	6·3	2·7
Barley	9,435	7,082	6,369	0·4	0·2	0·1
Oats	29,383	77,991	53,546	1·2	2·3	1·0
Hay	466,236	638,577	1,108,919	19·1	18·9	19·1
Green food ...	78,144	179,382	162,945	3·2	5·3	2·8
Potatoes	29,408	44,452	19,589	1·2	1·3	0·3
Sugar-cane ...	22,114	13,763	11,258	0·9	0·4	0·2
Vines	8,441	8,321	7,883	0·3	0·2	0·1
Orchards	46,234	47,354	55,438	1·9	1·4	1·0
Market-gardens	7,764	9,813	10,967	0·3	0·3	0·2
Other crops ...	12,948	17,239	15,838	0·5	0·5	0·3
Total	2,446,767	3,386,017	5,800,747	100	100	100

The figures include the areas double-cropped, viz., 1,203 acres, 4,096 acres, and 5,912 acres respectively.

The area devoted to wheat has always exceeded that given to other crops, and from the season 1880-1 the proportion, though fluctuating, has remained high. For the year 1915-16 it stood at over 72 per cent. of the whole area under cultivation, but this did not represent its true relationship to the other crops, since a varying area reaching many thousands of acres, which under normal conditions would have been harvested for grain, would be "eaten-off" by stock on account of drought. Consequently, the area under green-fodder crops during any given year may be widely different from that of the previous season, and the difference is a matter decided by the climatic conditions prevailing during the year. The proportion under maize decreased from 20 per cent. in 1880-1 to less than 3 per cent. in 1915-16, but other crops did not vary materially.

CULTIVATED HOLDINGS.

The number of holdings on which the principal crops were cultivated during the last five years is shown below.

Crop.	Number of Holdings.				
	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
Wheat	18,263	19,469	21,453	20,419	22,453
Maize	18,472	18,187	16,831	14,856	14,869
Barley	1,445	1,869	2,159	2,511	2,538
Oats	12,754	13,483	14,683	14,112	13,723
Potatoes	7,271	6,565	7,293	5,776	4,643
Tobacco	115	148	162	120	97
Sugar-cane	1,168	764	739	714	694
Grapes	1,514	1,437	1,471	1,352	1,292
Fruit—Citrus	4,735	4,827	5,033	5,303	5,787
Other	9,110	8,960	9,365	8,967	8,760
Market Garden Produce ...	3,368	3,581	3,373	2,972	3,301
Total Cultivated Holdings	47,810	48,943	50,955	49,269	50,632

Until 1913-14 the increase in wheat-holdings was pronounced, but during the following season there was a falling-off in their number, due to ploughing operations being restricted considerably as a result of the inadequate rainfall in various districts. During 1915-16 the number of wheat-holdings increased to 22,453. The year 1913-14 marks the commencement of a sudden decline in maize-holdings. In comparison to the area cultivated, the number of maize-holdings is far in excess of those of wheat, due to many dairy-farmers cropping small areas for use on the farms; while much of the wheat-acreage—about one-fourth—is cultivated under the "shares" system, under which a number of growers cultivate one holding.

VALUE OF PRODUCTION.

The average value of the principal crops during the last four years, with the proportion of each to the total value, is shown in the following table, the values being based on prices realised on the farm and not in the Sydney market.

Crop.	Value.				Proportion per cent.			
	1912-13.	1913-14.	1914-15.	1915-16.	1912-13.	1913-14.	1914-15.	1915-16.
	£	£	£	£				
Wheat	5,238,580	5,988,200	3,274,450	13,352,980	42·2	44·3	32·6	65·6
Maize	873,300	760,770	767,030	723,270	9·2	7·4	7·7	3·6
Barley	61,400	61,670	9,970	20,630	0·3	0·5	0·1	0·1
Oats	223,210	214,130	111,350	173,520	1·8	1·9	1·1	0·9
Hay and straw...	3,260,810	3,220,170	3,643,650	3,897,910	21·4	27·6	36·3	19·1
Green food	360,380	348,820	513,000	367,820	4·3	3·0	5·1	1·8
Potatoes	338,710	348,930	277,270	294,390	5·1	2·9	2·8	1·4
Sugar-cane	140,920	179,820	190,130	205,070	1·5	1·2	1·9	1·0
Grapes	90,010	91,060	74,800	98,400	0·8	0·8	0·7	0·5
Wine and brandy ..	63,670	46,490	45,120	47,840	0·7	0·5	0·5	0·2
Fruit—Citrus	239,040	219,820	257,870	252,170	3·0	2·1	2·6	1·2
„ Other	305,660	244,950	233,130	243,210	3·8	2·6	2·3	1·2
Market-gardens ...	369,480	401,060	405,280	400,860	3·6	3·1	4·0	2·0
Other crops	251,620	251,760	228,710	283,990	2·3	2·1	2·3	1·4
Total	11,816,790	12,377,650	10,031,760	20,362,360	100	100	100	100

The value of agricultural production in the season 1914-15 was not so high as in that of the two preceding seasons, owing to drought conditions, but the enhanced value incidentally due to the War largely compensated growers for diminished production. But the year 1915-16 showed a total increase in the value of all agricultural production amounting to nearly 103 per cent. on the figures of the preceding year, wheat increasing in value by nearly 308 per cent., barley by nearly 107 per cent., and oats by over 56 per cent. The increase in value of hay and straw was less than 8 per cent. on the figures of the preceding year, and some crops experienced an actual set-back.

It is apparent that the agricultural wealth of New South Wales at present depends mainly on the return from wheat and hay, the value of these crops in 1915-16 being £17,250,890, or over 84 per cent. of the total. The return of wheat for the season 1915-16 showed a total crop of 66,764,910 bushels, valued at £13,352,980, or £3,321,220 in excess of the total value of all crops produced in the previous season. After hay and straw the value of maize was next in importance, but at a considerably inferior level, and showing a lower return than for the previous year; the value of fruit, and the returns from market gardens, green food, potatoes, vines, and sugar-cane

were comparatively of much smaller value. The value of green food was much higher in 1914-15 than usual, owing to the abnormally large area of wheat fed-off on account of the dry weather, but in 1915-16 it resumed its normal proportionate relationship to other crops, the decline in value on that of the previous year amounting to £145,180. The value of the produce of market-gardens also fell below that of 1914-15, but there were increases on the values of the potatoe, sugar-cane, vine, and fruit production of the previous year.

The next table shows the area cultivated and the value of production from agriculture, together with the average value per acre over five-year periods since 1881.

Seasons ended June.	Aggregate of Areas Cultivated.	Value of Production.	Value per Acre.
	acres.	£	£ s. d.
1881—1885	3,310,427	17,971,776	5 8 7
1886—1890	4,176,834	19,229,839	4 12 1
1891—1895	5,242,770	18,940,086	3 12 3
1896—1900	9,474,285	26,003,897	2 14 11
1901—1905	12,183,823	30,827,138	2 10 7
1906—1910	14,121,264	39,875,810	2 16 6
1911—1915	20,125,838	53,468,080	2 13 2
1916	5,794,835	20,362,360	3 10 3

The highest relative value received in any year was 1881-2, when the return was £7 4s. 5d. per acre. Decrease in prices, not lack of productiveness, was the cause of the decline in value after 1882. The fall in prices, especially of wheat, was very rapid down to 1895; for the next three years there was a material increase; in 1899 they fell again to the 1895 level; but in 1902 there was a general increase; while towards the close of 1903, and almost up to the close of 1903-4, the effects of the adverse season were acutely felt, and prices rose to double those of the previous year. At the end of the 1903-4 season, when heavy crops began to arrive, prices again fell, but they recovered during the year following. The value of production per acre rose steadily from the season 1904-5 to £3 8s. 9d. in 1910, when it was the highest since 1893. For the season 1914-15 the return per acre (£2 1s. 9d.) was the lowest since 1904-5. As previously stated, the effects of the drought were felt very severely throughout the agricultural districts, and many crops failed absolutely, whilst others gave a very meagre return. In numerous instances the wheat and other cereal crops barely covered the ground, and they were practically valueless, even when eaten-off by stock. These failures reduced considerably the average value obtained per acre, although the high prices of all agricultural products partially counterbalanced the diminished production.

Owing to the insistent demand of the Imperial Government, the State Ministry made a special appeal, which was backed by substantial guarantees, to the farmers of New South Wales to maintain the area placed under wheat, and this necessitated increasing the area under other crops. The additional area cropped for all agricultural production during the year

1915-16 was 986,208 acres, while the increased value amounted to £10,330,600, or nearly 103 per cent. over that of the previous year, and the productive value per acre increased by £1 8s. 6d.

During the quinquennial period, 1911-15, the aggregate number of acres placed under cultivation increased by 6,004,574, and the value of production by £13,592,270; but the value per acre decreased by 3s. 4½d. on the figures of the previous quinquennium.

The annual increase in the aggregate number of acres cultivated, and of the value of production (with a single adverse year), together with the fluctuations in the value of production per acre, since the year 1911, was annually as follow:—1912, increase in the aggregate number of acres cultivated, 247,249; value of production, increase £255,760; value per acre, decrease 2s. 5d.: 1913, increase, acres cultivated 108,099; increased value of production, £2,067,970; increased value per acre, 9s. 6d.: 1914, increase, acres cultivated 831,572; increased value of production £560,860; decreased value per acre 9s. 1d.: 1915, increase, acres cultivated 239,786; decreased value of production £2,345,890; decreased value per acre, 12s. 5d.: 1916, increase, acres cultivated 986,208; increased value of production £10,330,600; and the increased value per acre, £1 8s. 6d.

AVERAGE VALUE PER ACRE.

The average value per acre of various crops during the seasons 1914-16 are shown below in comparison with the average for the last ten years:—

Crop.	Average Values per Acre.			Average Value for 10 Years, 1907-16.
	1913-1914.	1914-1915.	1915-1916.	
Grain—	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wheat	1 17 4	1 3 9	3 3 9	2 1 7
Maize	4 17 0	5 6 9	4 13 10	4 14 2
Oats	2 1 5	2 11 3	2 19 3	2 6 4
Hay	3 19 7	4 11 6	3 9 9	3 13 3
Potatoes	9 0 2	9 2 4	15 0 7	11 5 8
Sugar-cane	29 0 3	31 12 6	34 0 2	24 14 9
Vineyards	18 15 6	17 15 0	23 10 5	18 1 11
Orchards	12 19 0	13 19 2	13 11 1	12 6 0
Market-gardens	37 16 2	38 11 10	36 11 0	33 10 3

SHARE-FARMING.

The division of the profits between the owners of the land and the farmers (called share-farmers) has reached important dimensions. The system is applied to dairy-farming also, especially in certain of the coastal districts, but in comparison with the area cultivated, the area for dairies is inconsiderable. During 1915-16 the system of share-farming affected 2,474 holdings, of which number 2,295 were cultivated exclusively for crops, and 169 were used for dairy-farming, whilst on 10 both classes of industry were pursued independently. On the 10 holdings on which the dual industries were pursued 45 farmers cultivated 14,285 acres, and the dairymen occupied

2,518 acres. In agriculture as an exclusive pursuit 4,417 farmers cultivated 1,275,323 acres, and in dairy-farming 308 farmers utilised 81,150 acres for purposes of depasturing their stock, and 7,661 acres for the production of crops.

It will be seen from the figures submitted in the following table, showing the area farmed on shares in the industry of grain-growing, that the area cultivated for wheat was the largest, and in a subsequent table will be shown the increasing importance of share-farming with respect to the growing of this cereal.

Division.	Number of*—		Area farmed on shares.	Area for Grain only.						
	Holdings.	Share Farmers.		Wheat.	Maize.	Mating Barley.	Other Barley.	Oats.	Bye.	Broom Millet.
Coastal Belt—			acres.	acres.	acres.	acs.	acs.	acs.	acs.	acs.
North Coast ...	12	18	1,824	...	1,335	...	...	1	...	...
Hunter and Manning	15	22	3,085	181	456	...	40	10	...	4
Metropolitan ...	...	...	...	...	...	...	...	...	...	...
South Coast ..	...	...	401	...	99	...	...	...	...	...
Total ..	27	40	5,310	181	1,890	...	40	11	...	4
Tableland—										
Northern ...	15	18	1,440	374	188	...	...	...	...	...
Central ..	152	269	54,872	40,992	85	18	15	390	...	...
Southern ...	24	37	4,481	3,218	...	120	...	216	...	...
Total ..	191	324	60,793	44,584	273	138	15	606	...	...
Western Declivity—										
North-Western Slope	294	555	103,170	94,238	168	110	...	...	...	...
Central „ „	456	797	203,266	182,573	31	..	...	777	...	...
South „ „	581	1,239	404,114	359,548	855	157	50	3,526	10	...
Total ...	1,331	2,591	710,550	636,359	1,054	267	50	4,303	10	...
Central Plains—										
North Central ..	25	30	5,767	4,809	...	...	...	...	...	...
Central ...	241	411	136,248	118,819	...	10	...	75	...	...
Total ...	266	441	142,015	123,628	...	10	...	75	...	...
Riverina ...	489	1,065	378,501	343,816	...	20	6	1,214	...	...
Western Plains ...	1	1	100	10	...	...	...	...	...	...
Total, N. S. Wales...	2,305	4,462	1,297,269†	1,148,578	3,217	435	111	6,209	10	4

* On 10 holdings, 11 dairy-farmers were occupied independently of those engaged in agriculture only; in addition, on 169 holdings 368 dairy farmers cultivated 7,661 acres of crops, details of which are included under the various headings.

† Includes 1,612 acres, ploughed, but not sown.

In addition to the grain shown in the preceding table, the following crops were also cultivated.

Division	Hay.			Green food.	Potatoes.	Other Root crops.	Grapes and Other Fruit.	Kitchen Garden Produce.	Pumpkins, Melons, etc.	Tobacco.
	Wheat.	Oats.	Lucerne.							
	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acs.
Coastal Belt—										
North Coast ...	...	25	26	404	15	11	3	4	...	...
Hunter and Manning	176	10	697	1,365	8	...	78	3	57	...
Metropolitan ...	...	...	...	...	...	...	...	...	...	...
South Coast ...	...	62	29	210	1	...	...	...	...	...
Total ...	176	97	752	1,979	24	11	81	7	57	...
Tableland—										
Northern ...	384	50	15	422	5	...	...	2	...	...
Central ...	8,137	4,533	398	121	115	...	10	58	...	4
Southern ...	278	630	14	...	4	...	..	1	...	...
Total ...	8,799	5,213	427	543	124	...	10	61	...	4
Western Declivity—										
North Western Slope	6,283	110	169	1,461	...	...	...	...	...	199
Central „ „	17,937	626	52	857	...	...	13	...	...	...
South „ „	33,597	5,674	313	360	...	...	...	...	...	...
Total ...	57,817	6,410	534	2,678	...	...	13	...	...	199
Central Plains—										
North Central ...	883	...	...	15	...	...	...	...	...	...
Central ...	16,534	45	...	765	...	...	...	...	...	...
Total ...	17,417	45	...	780	...	...	..	...	...	...
Riverina ...	30,712	1,897	20	110	...	...	6	..	...	...
Western Plains ...	90	...	...	...	...	...	...	...	...	...
Total, N. S. Wales...	115,011	13,662*	1,733	6,090†	148	11	110	68	57	203

* Includes 47 acres of barley hay and 4 acres of rye hay.

† Includes 3,553 acres of wheat, 244 acres of maize, 195 acres of barley, 757 acres of oats, 36 acres of rye, 189 acres of sorghum, 61 acres of rape, and 1,025 acres of lucerne.

According to a report of the Royal Commission appointed to inquire into the rural, pastoral, agricultural, and dairying interests in January, 1916, the labours of which extended into the second half of the year 1917, the share-farming system, as at present conducted, conferred the greater advantages upon the land-holder. The evidence adduced before the Commission indicated that the system did not offer facilities of transition to

conditions of permanent settlement. The formulation of special legislation was, therefore, recommended in order to regulate the system equitably, with consideration of the question of rendering financial assistance to share-farmers.

AREA UNDER WHEAT.

In New South Wales, as in most other countries, the area devoted to wheat far exceeds that of any other cereal, and it is in this form of cultivation that the returns of the State show the greatest expansion. In the season 1914-15 the total area sown with wheat increased by 380,000 acres, but the area harvested for grain—2,758,024 acres—was 447,373 acres less than in 1913-14, and represented only 57 per cent. of the whole area under cultivation, as compared with 70 per cent. in the previous year. Owing to the dry season the wheat crops on 815,561 acres—mainly intended for grain—failed to mature, and in consequence were eaten-off by stock, or otherwise used as green food. The total area sown with wheat in the season 1915-16 amounted to 5,122,245 acres; but the area harvested for grain comprised 4,188,865, that reaped for hay 879,678, and that eaten-off by stock or used as green food only 53,702 acres. As already pointed out, the ultimate production as grain-crop is largely a matter of season, of failure through undue aridity, or through excessive rains which result in rust and other damage.

During the eight seasons prior to 1914-15 the area fed-off or used as green food—although reaching 129,813 acres in 1907-8—did not exceed 56,715 acres annually over the whole period; hence the season 1915-16 was exceptional in the limited area exploited for green food or eaten-off by stock.

The year 1897-8 may be said to mark the beginning of the present era of wheat-growing in New South Wales, for it was in that year that the production for the first time exceeded the consumption, and left a surplus available for export.

The following statement shows the area under wheat in Divisions of the State during the seasons 1907-8 and 1915-16 in comparison with 1897-8.

Division.	Area under Wheat for Grain.			Proportion in each District.		
	1897-8.	1907-8.	1915-16.	1897-8.	1907-8.	1915-16.
	acres.	acres.	acres.	per cent.	per cent.	per cent.
Coastal Belt ...	16,192	4,940	5,217	1·6	0·4	0·1
Tableland—						
Northern ...	20,686	6,362	7,642	2·1	0·4	0·2
Central ...	80,318	62,587	169,546	8·1	4·5	4·0
Southern ...	22,421	4,990	20,888	2·2	0·4	0·5
Total ...	123,425	73,939	198,076	12·4	5·3	4·7
Western Declivity—						
North-W. Slope	59,330	172,907	434,088	6·0	12·4	10·4
Central „ „	102,136	273,025	693,099	10·3	19·6	16·5
South „ „	198,268	274,950	901,799	19·9	19·9	21·5
Total ...	359,734	720,882	2,028,986	36·2	51·9	48·4
Central Plains ...	31,589	142,979	491,563	3·2	10·3	11·8
Riverina ...	460,474	445,537	1,463,728	46·4	32·0	35·0
Western Plains ...	1,936	1,894	1,295	0·2	0·1	.....
All Divisions ...	993,350	1,390,171	4,188,865	100·0	100·0	100·0

As might be expected, the proportions of land under wheat in each Division generally followed the same order as shown in a previous table for the total area under cultivation. Between 1898 and 1916, however, the proportions in each Division changed considerably. The Tableland, for instance, in 1915-16 included only 4·7 per cent. of the whole area, as against 12·4 per cent. in 1898, and the Riverina 35 per cent., as against 46·4 per cent., while the Western Declivity increased from 36·2 per cent. to 48·4 per cent., and the Central Plains from 3·2 per cent. to 11·8 per cent. The largest relative increase in area was in the Central Plains, where the area was more than fifteen times that of 1898. The North Western Slope came next, followed closely by the Central Western and South Western Slopes.

Since the year 1898 wheat-growing in the Tableland Division has not been so greatly in favour as the conditions of soil and climate, together with the relative nearness to a metropolitan market, might appear to warrant. The area fell to a third of that formerly cultivated in the Northern Tableland, and to more than a fifth in the Southern, though the Central Tableland, after a decline, showed a vigorous recuperation as a wheat-growing region.

The great bulk of the wheat is grown on the Western Slopes and in the eastern part of the Riverina, these Divisions together contributing over 83 per cent. of the whole. On the Coast, on the Western Plains, and in the Central Plain, with the exception of the eastern fringe, the wheat area and the yield are very small. The expansion in the Central Plains is attributable to the increase around Narromine.

WHEAT YIELD.

The next statement shows the yield in each of the above-named Divisions in the decennial years 1897-8 and 1907-8, and in the year 1915-16.

Division.	Yield of Grain.			Average yield per Acre.		
	1897-8.	1907-8.	1915-16.	1897-8.	1907-8.	1915-16.
	bushels.	bushels.	bushels.	bushels.	bushels.	bushels.
Coastal Belt	329,274	23,996	33,881	20·3	4·9	6·5
Tableland—						
Northern	300,215	90,728	79,172	14·5	14·3	10·4
Central	933,296	479,404	3,242,286	11·6	7·7	13·2
Southern	242,556	42,176	419,456	10·8	8·5	20·1
Total... ..	1,476,067	612,308	3,740,914	12·0	8·3	18·9
Western Declivity—						
North-Western Slope...	1,208,859	1,070,344	5,616,454	20·4	6·2	12·9
Central „ „ ...	1,398,967	2,033,284	11,325,164	13·7	7·4	16·3
South „ „ ...	1,849,521	2,482,004	16,426,101	9·3	9·0	18·2
Total	4,457,347	5,585,632	33,367,719	12·4	7·7	16·4
Central Plains	563,066	611,852	4,601,866	17·8	4·3	9·4
Riverina	3,725,421	2,306,188	25,011,778	8·1	5·2	17·1
Western Plains	8,936	15,908	8,752	4·6	8·4	6·8
All Divisions	10,560,111	9,153,884	66,764,910	10·6	6·6	15·9

Prior to the year 1915-16 the most prolific Division was, in a general sense, the North Western Slope, which showed the highest average yield for almost the whole period covered by the table, except the Coastal Division and the Northern Tableland, where the aggregate yields were not large.

In 1915-16 the average yield per acre for the Southern Tableland was 20·1 bushels, for the South Western Slope 18·2, for the Riverina 17·1, and for the Central Western Slope 16·3 bushels. The average yield for the Western Declivity as a whole was 16·4 bushels, and for the Tableland as a whole 18·9; while the average of New South Wales was 15·9 bushels. The Riverina and the South Western Slope, which yield the largest aggregate crops, control the general average of the State.

As a further illustration of the relative extent of the acreage under wheat for grain, and the resultant yield for 1907-8, for 1915-16, and for 1916-17, the following table shows the index numbers of those years in relation to 1897-8, which is taken as a basis, and is equal to 100.

Division.	Area under Wheat.			Yield.		
	1907-8.	1915-16.	1916-17.*	1907-8.	1915-16.	1916-17.*
Coastal Belt	30·5	32·2	59·7	7·3	10·3	26·9
Tableland—						
Northern	30·7	30·8	20·6	30·2	26·4	17·2
Central	77·9	211·1	89·7	51·4	347·4	81·7
Southern	22·3	93·2	49·4	17·4	172·9	52·9
Total	59·9	160·5	70·8	41·5	253·4	63·9
Western Declivity—						
North-Western Slope ...	291·4	731·7	594·4	88·5	464·6	278·1
Central „ „	267·3	678·6	563·4	145·3	809·5	362·0
South „ „	138·7	454·8	380·7	134·2	888·1	370·0
Total	200·4	564·0	467·8	125·3	748·6	342·6
Central Plains	452·6	1,556·1	1,597·3	108·7	817·3	892·5
Riverina	96·8	317·9	267·3	61·9	671·4	413·5
Western Plains	97·8	66·8	69·1	178·0	98·0	148·4
All Divisions	139·9	421·7	354·5	86·7	632·2	348·0

* Subject to adjustment.

The proportional figures for the year 1916-17, with the actual returns of 1897-8 as a base equal to 100, were calculated from estimates and such data as had been received when the Year Book went to press. These

figures, distributed according to Divisions of the State, are shown in the following table.

Division.					Area for Grain.	Yield of Grain.
					acres.	bushels.
Coastal Belt	...	...	...	...	9,671	88,465
Tableland—						
Northern	...	...	...	...	4,268	51,650
Central	...	...	...	...	72,045	762,725
Southern	...	...	...	...	11,079	128,360
Total	...	...	...	...	87,392	942,735
Western Declivity—						
North-Western Slope	...	...	...	...	352,629	3,361,993
Central	„	„	...	...	575,503	5,064,400
South	„	„	...	...	754,893	6,843,696
Total	...	...	...	...	1,683,025	15,270,089
Central Plains	...	...	...	...	504,531	5,025,069
Riverina	...	...	...	...	1,235,325	15,403,885
Western Plains	...	...	...	...	1,337	13,257
All Divisions	...	...	...	...	3,521,331	36,743,500

A great portion of the immense area of the State, hitherto devoted exclusively to pastoral pursuits, consists of land which could be utilised profitably for agriculture, much of it being more suitable for the cultivation of wheat than some of the land now under crop; and the returns show that wheat-growing, which was confined formerly to small farmers, is engaging the attention of a number of the large landholders, who cultivate areas of thousands of acres in extent, and use the most modern and effective implements and machinery for ploughing, sowing, and harvesting.

GOVERNMENT WHEAT-MARKETING SCHEME.

Owing to the extraordinary conditions arising out of the state of war, the marketing of Australian wheat of the 1915-16 and 1916-17 seasons presented unusual difficulties. The quantity of wheat available for export in 1916 was the largest on record, but shipping space has been, and still is, difficult to obtain. The Governments of the Commonwealth and of the wheat-producing States—New South Wales, Victoria, South Australia, and Western Australia—decided therefore to assume control of the crop, and to arrange for its reception, financing, shipping, and marketing. The Minister for Agriculture in each State controls the Government organisation appointed to receive the wheat and load it on shipboard.

Questions of shipping and finance as affecting the general scheme are arranged by a Central Committee, consisting of the Prime Minister of the Commonwealth and the State Ministers for Agriculture, with the assistance of an advisory board representing the wheat-exporting firms, the firms or individuals acting as Government agents in the States, the Commonwealth chartering agents, and the associated banks of Australia.

The internal State organisation for the management of the scheme is controlled by the State Governments. Agents have been appointed to receive the wheat at various centres on behalf of their respective Governments, to issue certificates showing the quantity and quality, to store, to consign to ports, and to ship the grain.

The selling is entrusted to a London board, consisting of the High Commissioner for Australia, and the Agents-General of the States concerned, co-operating with the London representatives of the principal Australian wheat-buying firms. Selling commission and charges are at fixed rates, and the returns for the sales of each cargo are credited to the exporting State. Provision is made for supplying millers with wheat for the manufacture of flour both for local requirements and for exportation.

In New South Wales the firms which have hitherto purchased and handled the wheat have been appointed as Government agents. Commission is payable at the rate of 3½d. per bushel, which covers cost of receiving, sampling, stacking, trucking, storing at port, and loading on board ship, besides ensuring a partial measure of protection. The agents are responsible to the Government for the weight and condition of the wheat they receive; they provide sacks, and undertake all necessary re-bagging of country or of port stacks.

The flour-millers have been appointed as Government agents also, to receive wheat for trade requirements, and to issue certificates. The millers receive commission at the rate of 1½d. per bushel, and pay the Government fortnightly.

The problem of financing the wheat deal was of considerable difficulty. In previous times the banks took up wheat-bills as a matter of business choice and independent enterprise, but under the Commonwealth wheat scheme the whole question was subject to arrangement and regulation. The proportions of the business done by each bank were ascertained by taking their deposits as disclosed by the quarterly average returns, supplied under statutory requirement to the various State Governments, and discovering precisely the extent of the resources of each institution determined by this standard. As the four wheat-producing States, however, were represented by varying quantities in the output of the cereal, and as the banking business done in each State in connection with the wheat crop correspondingly varied, it was decided by the Federal Government to employ the financial institutions of each individual State in the work of financing the local crop on a proportionate basis.

The Bank of New South Wales, in accordance with the Commonwealth's first plan, received 37 per cent. of the State's wheat business, the Commercial Banking Company of Sydney 31 per cent., the Bank of Australasia 8 per cent., the Union Bank 6 per cent., the Australian Bank of Commerce 5 per cent., the London Bank of Australia 3 per cent., and the Commonwealth Bank of Australia 10 per cent. As some of the banks did not absorb the entire amount of the business allotted to them, the Commonwealth Bank volunteered the responsibility of the unappropriated details. This was the first time in our history that financial undertakings were so regulated, and it put in being a portion of the scheme for mobilising the financial resources of Australia on a distinct war basis.

The wheat scheme represented the largest deal in the cereal that the world had ever witnessed. The crop was overwhelming the avenues of transit and the accommodation for storage, and was accumulating rapidly throughout four States of the Continent. The position was extremely critical, and to save it from becoming acute the Commonwealth Government approached the Imperial authorities, placing 3,000,000 tons of wheat in one line at 4s. 9d. per bushel f.o.b., and the British Government responded to the overtures, the total purchase amounting to the sum of £26,600,000, which was to be paid in instalments, falling due on specific dates. The growers received a first dividend, but the payment of the balance was deferred. In the meanwhile, local sales were made to the flour-millers to the extent of about £500,000 per month, whilst foreign shipping orders represented about £125,000 per

month. There were, in addition, certain special sales, as, for instance, to the French Government, amounting to £1,500,000, payable in London.

The terms of purchase with the British Government were modified to the extent of the delivery of portion of the wheat bought in the form of flour, thus providing Australian millers with employment, and saving tonnage in shipping.

In order to meet the demands of the growers, and the finances permitting, a second agreement was entered into as between the Governments concerned and the banks, which provided a further advance of 6d. per bushel—provided that the aggregate overdraft did not exceed £2,150,000. Moreover, the Governments concerned gave the banks a guarantee that after the 1st September, 1916, they would be repaid at a rate of not less than £500,000 per month; meanwhile repayments were to be suspended until the liquidation of an advance of £11,000,000, which the British Government had made to assist the scheme, the growers having already received this money.

A further payment of 1s. per bushel was made on the 21st March, 1917. This instalment, less certain charges, was made to growers who had placed wheat in the 1915-16 pool, and the total disbursement necessitated an advance of £2,500,000 from the banks, to be refunded to the amount of £500,000 from local sales, and to the amount of £1,500,000 from the sale of wheat to the French Government.

The financial details of the first wheat pool resulted as follow:—

	£
First advance	20,424,000
Second „	3,982,000
Third „	3,533,000
Fourth „ (estimated)	4,000,000
Expenses charged	4,214,000
Total	£36,159,000

When the scheme was formulated the banks were required to find 3s. per bushel as a first charge, of which 6d. represented the cost of handling, transport, &c., and 2s. 6d. part payment to the growers. The Governments concerned, whilst guaranteeing the banks against any loss through the operations of the scheme, as the result of fraudulent representation, or through any mistake in the identity of persons to whom moneys might be paid, agreed to remit to the banks the proceeds of all sales made in Australia, and in cases where sales were made oversea to surrender to the banking companies the bills of lading, the insurance policies, the drafts on buyers, and similar shipping documents.

All arrangements were entrusted subsequently to the Commonwealth Bank as the banker of the Federal Government, and that institution was entrusted to make the necessary arrangements on the following basis:—(1) General arrangements to be much the same as during the previous season; (2) terms of interest and exchange to be the same; (3) subsidiary arrangements to be made by the Commonwealth Bank with the other banks; and under this scheme it acted as the distributing agent in every centre. Under the original arrangement each bank opened an account for expenses, and the Wheat Boards were obliged to operate in this regard with individual institutions; but under the newer arrangements the whole of the expenses were controlled by the Commonwealth Bank. Under the original arrangement an account was opened for each separate transaction, amounting in all to five accounts. These were amalgamated into a single account. The banks were no longer concerned in distinguishing the resultant grain of one crop from another. That had become a matter of exclusive and vital concern to the Wheat Board, which was under the necessity of identifying every bag of the output.

The first advance on the cereal lodged in the 1916-17 pool amounted to £17,101,000, and the expenses to £2,198,000, or a total of £19,299,000. It was originally estimated that this crop would comprise 120,000,000 bushels, and that £15,000,000 would be required from the banks to make the growers their first advance of 2s. 6d. per bushel, with another sum of £3,000,000 for expenses. Receipts were, however, meeting expenditure. The agreement with the Imperial Government provided for the payment of £8,000,000 in February, and of further payments of £2,000,000 a week until a total sum of £18,000,000 was reached. The original arrangement for the initial deal, involving the amount of £26,000,000, included a payment of £8,000,000 during the month of February, 1917, and second, third, and fourth payments, each amounting to £6,200,000, on the first day of the months of June, September, and December following respectively. But the British Government was persuaded to vary the arrangement and to subscribe £18,000,000 immediately, an amount which was paid in nine equal weekly instalments of two millions sterling, beginning in February, the balance of £8,600,000 to be remitted at the rate of one million sterling a week, beginning on the 1st of September.

Under these revised methods the Bank of New South Wales received 30 per cent. of the business in connection with the wheat deal within the boundaries of the parent State, the Commercial Banking Company of Sydney 26 per cent., the Commonwealth Bank of Australia 19 per cent., and the other banks from 7 to 1 per cent., sixteen in all assisting to finance the wheat harvest, of which eleven were represented in New South Wales. Thus, of the £15,000,000 originally estimated to be requisite to meet the first advance of 2s. 6d. for 1917 in all the States, the Bank of New South Wales was required to provide £2,456,000, the Commercial Banking Company of Sydney £1,417,000, and the Commonwealth Bank £4,310,000—the magnitude of the last-cited amount being due to the fact that other banks had taken up less than their allotted share of the business.

The institutions financing the wheat scheme were paid 5 per cent. upon daily balances, and they probably obtained a profit by the flat rate of 1s. charged on inland exchange for liquidating the wheat certificates. On the other hand, the pool profited by the oversea exchange, the banks paying for the privilege of receiving moneys in London instead of receiving them in Australia.

WHEAT SHARE-FARMING.

A considerable portion of the new area which is being brought under wheat in New South Wales is cultivated on the shares system, especially in the southern and western districts. Under this system the owner leases his land, which is cleared, fenced, and ready for the plough, to the agriculturist for a period, and for the purpose of wheat-growing only, the farmer tenant possessing the right of running upon the estate the horses necessary for working the farm, and the owner retaining the right of depasturing his stock when the land is not in actual cultivation. It is usual for the owner to provide the seed-wheat, the bluestone for picking the seed, and the bags and twine for his own share of the crop; while the tenant supplies the machinery and horses necessary to work the land, and the necessary labour, bags, and twine for his own share of the crop; and he must also keep gates and fences in good repair. Up to a specified yield the parties to the agreement take equal shares of the produce, any excess going to the farmer as a bonus; the system, however, is subject to local arrangements.

The number of acres farmed on the shares system in each of the ten seasons ending with 1915-16 is shown below.

Season.	Area.	Season.	Area.
	acres.		acres.
1906-7	429,543	1911-12	616,607
1907-8	348,444	1912-13	618,333
1908-9	307,750	1913-14	959,135
1909-10	364,579	1914-15	1,049,385
1910-11	473,079	1915-16	1,073,580

Of the area cultivated in 1915-16 on the shares system 590,858 acres were in the Western Declivity, and 314,203 acres were in the Riverina Division.

Further particulars regarding wheat-growing on the shares system will be found on pages 1056 and 1057.

EXTENSION OF WHEAT CULTIVATION.

The progress of wheat-growing for many years was slow and irregular, and it was not until 1878 that the area exceeded 200,000 acres. During the next eight years the area increased by 100,000 acres, and in 1886 it was 337,730 acres. Since then the area has fluctuated considerably, but there has been a general tendency to advance, and in 1898 the area reaped for grain contained 1,319,503 acres. In 1910 the two-million-acres mark was reached, and three years later the area increased to 3,205,397 acres. A large area failed during 1914 on account of the dry weather, but the area harvested for grain in 1915—4,188,865 acres—was nearly 1,000,000 acres in advance of the figures for 1913, and was the highest on record.

The season of 1914-15 was a period of low production; but as in the case of the drought of 1902-3, it was followed by a season of abundance. In 1915 the ploughing season proved favourable, and as a result of the war in which the Empire is engaged, farmers increased their wheat areas to such an extent that with an opportune rainfall, especially in the South Western Slope and the Riverina Divisions, the resultant harvest exceeded the previous highest production in 1913-14 by over 75 per cent., and was nearly two-and-a-half times greater than the average annual production during the quinquennial period ended with 1914-15. The average yield for the season 1915-16 was 15·9 bushels per acre—the highest since 1903-4, and 5 bushels above the average of the previous ten years.

The following statement shows the area under wheat for grain at intervals since 1875-6, together with the total production and average yield per acre.

Season.	Area under Wheat for Grain.	Yield.		Season.	Area under Wheat for Grain.	Yield.	
		Total.	Average per Acre.			Total.	Average per Acre.
	acres.	bushels.			acres.	bushels.	bushels.
1875-6	133,609	1,958,640	14·66	1906-7	1,866,253	21,817,938	11·69
1880-1	253,137	3,717,355	14·69	1907-8	1,390,171	9,155,884	6·59
1885-6	264,867	2,733,133	10·45	1908-9	1,394,056	15,483,276	11·11
1890-1	333,233	3,649,216	10·95	1909-10	1,990,180	28,532,029	14·34
1895-6	596,684	5,195,312	8·71	1910-11	2,128,826	27,913,547	13·11
1900-1	1,530,609	16,173,771	10·56	1911-12	2,380,710	25,088,102	10·54
1901-2	1,392,070	14,808,705	10·64	1912-13	2,231,514	32,487,336	14·56
1902-3	1,279,760	1,585,097	1·24	1913-14	3,205,397	38,020,381	11·86
1903-4	1,561,111	27,334,141	17·51	1914-15	2,758,024	12,830,530	4·65
1904-5	1,775,955	16,464,415	9·27	1915-16	4,188,865	66,764,910	15·94
1905-6	1,939,447	20,737,200	10·69	1916-17*	3,521,331	36,743,500	10·43

* Advance figures—subject to revision.

Lack of capacity to produce a payable average has not been apparently the cause of the tardiness in the development of wheat cultivation. The highest averages recorded have been 17·51 in 1903-4 and 17·37 in 1886-7. The lowest was 1·24 bushels in the season 1902-3. During the whole period of forty-two years there were only eight seasons when the yield fell below 10 bushels per acre, the drop in each case being due to drought conditions, and it may be said that from equal qualities of soil a better yield is now obtained than was realised twenty years ago—a result due largely to extension of agricultural education, to the use of fertilisers, and to more economical harvesting appliances; furthermore, rust, smut, and other forms of disease in wheat have been less frequent and less general in recent years.

During the month of July of every year inquiries as to the area under wheat are made by the Statistician, the particulars for each grower being entered in specially prepared books, which contain details of the actual area under wheat, and the production for the previous season. The area likely to be harvested for grain is stated, together with particulars of the extent of new and fallowed land placed under crop. Additional information is collected also as to the proportion of early, mid-season, and late crops. Reports are furnished for each district concerning the condition of the crops, the rainfall, and the prospects for the season. After tabulating the results they are published, and the books are returned to the collectors during October for revision and necessary amendment. Additional particulars are entered as to the actual or anticipated yields of grain and hay for each holding; and from the information obtained in this manner an estimate as to the probable wheat harvest is issued about the end of the year.

The question of issuing progress reports during the wheat-growing season is receiving attention, and it is probable that the present system of crop reporting will be extended.

PRINCIPAL WHEAT-GROWING COUNTRIES.

A comparison of the production of this cereal in the principal wheat-growing countries would be misleading if based solely on the yields obtained either in 1914, 1915, or 1916. Owing to the disturbed conditions in Europe, the returns for these years are simply estimates based upon fragmentary data, and do not give an accurate indication of the productivity of the various countries to which they relate.

For these reasons statistics of the latest recorded annual production, together with the average production during the last three years, are shown in the following table.

Country.	Production.		Country.	Production.	
	1916.	Average 3 years (1914-1916).		1916.	Average, 3 years (1914-1916).
	bushels.	bushels.		bushels.	bushels.
New South Wales	36,743,500	38,780,000	United States ...	607,566,000	836,729,000
Victoria ...	51,162,438	37,875,000	Russia ...	673,946,000	751,595,000
South Australia ...	43,530,972	27,164,000	British India ...	318,005,000	337,804,000
Western Australia	16,107,804	12,323,000	Canada ...	159,126,000	218,888,000
Queensland	2,463,141	1,488,000	Italy ...	180,044,000	173,342,000
Tasmania ...	348,330	575,000	Argentina ...	70,225,000	120,783,000
			Spain ...	152,921,000	134,873,000
Total, Australia	150,656,185	118,205,000	Roumania ...	78,521,000	83,666,000
			United Kingdom	57,366,000	66,027,000
New Zealand ...	7,108,360	6,328,000	Egypt ...	36,544,000	35,531,000
			Japan ...	24,444,000	25,084,000

From the estimated figures, which up to the present constitute the only data available, the world's wheat harvest for 1916 was decidedly deficient, and did not reach three-fourths of that of 1915. It must be remembered, however, that a condition of belligerency in many countries prevented the collection of statistics, and that in some cases they were very incomplete, as in European Russia, where circumstances permitted the taking of a partial wheat census in only forty-eight Governments out of a total of sixty-three. It is noteworthy that the only countries in the world to show an increase in the area under wheat, outside the United States, were Spain, Switzerland, and India, where the figures were advanced by over 3,000,000 acres, which was, however, insufficient to offset the decrease elsewhere exhibited. Statisticians in war-affected countries note that the conversion of the public taste to an appreciation of the value of oats, maize, and barley as food-stuffs are necessarily slow, but the returns of these cereals nevertheless evoked an interest quite alien to former years.

The figures in the foregoing table represent estimated returns for the 1916-17 crop in the Commonwealth of Australia with the exception of Victoria and Queensland (which are actual), the Dominion of New Zealand (which refer to the actual crop of 1915-16), and estimated returns for the year 1916 with regard to countries oversea. The average for the three years 1914-16 includes the low yield which was general through the Commonwealth. Certain foreign countries which appeared in last year's table are absent in the preceding statement, notably Austria-Hungary, Germany, Turkey (in Europe and in Asia), France, Algeria, and Belgium, as well as Persia and Chile.

AREA SUITABLE FOR WHEAT-GROWING.

The area suitable for wheat-growing is defined roughly as that part of the State, which has sufficient rainfall (*a*) to admit of the conduct of ploughing operations at the right time of the year, (*b*) to cover the growing period of the wheat-plant—April to October, inclusive, and (*c*) to fill the grain during the months of September and October; or, in the case of districts where the rainfall in these months is light, to counteract the deficiency by the increased falls in the earlier or later months.

September and October are the most critical months as regards rainfall, as they constitute the time for the filling of the grain. Heavy soils require more moisture than light soils, especially if the latter possess retentive sub-soils. The nature of the soil, and considerations of elevation, temperature, evaporation, etc., have an important bearing on the moisture needed for wheat culture, one of the most important in determining the area of profitable wheat-growing being the seasonal distribution of the rainfall. Heavy falls early in the season may induce too vigorous a growth, to maintain which would require correspondingly heavy rains in the spring or early summer. On the other hand, comparatively light showers not only encourage surface rooting, but result in a larger amount of evaporation than falls giving about one inch at a time.

The annual rainfall gradually diminishes towards the western limits of the State, the figures ranging from a mean of about 50 inches on the seaboard to 10 inches on the western boundary.

In the early days of the industry wheat-growing was confined to the coastal districts, but its cultivation in those areas has been practically abandoned on account of the prevalence of rust, caused by excessive

moisture, combined with the discovery that the drier districts are more **suitable** because the crop there can be grown more cheaply under conditions more **adaptable** to cereal production.

In some of the northern districts much of the land is unsuited to wheat-growing, because it consists of stony and hilly country, too rough for cultivation, and of black-soil plains which bake and crack, and which present mechanical difficulties to tillage. The rich soils of river-flats also must be omitted from good wheat-growing areas, because such land has a tendency to produce excessive straw-growth, although excellent hay can be grown thereon.

Until recently, land with an average rainfall of less than 20 inches had also been excluded from the area considered safe for profitable wheat-growing. With the exceptions of the coastal and certain unsuitable northern districts, it had been estimated that the area with an average annual rainfall of not less than 20 inches, suitable for wheat-growing, covers from 20 to 25 million acres.

Assuming that wheat could be grown profitably in New South Wales in areas with an annual fall of 16 inches, another 9,000,000 acres would be added to the wheat belt.

On the map attached to this Year Book are shown the experience lines of profitable wheat cultivation, that is, the western boundaries of the area in which wheat has been successfully cultivated, as determined in 1904 and in 1912, the western boundary of the area over which the average rainfall is not less than 10 inches during the wheat-growing period being defined also.

Considerable improvement has been manifested during recent years in the methods of wheat culture. The old system has been altered gradually in accord with modern ideas, and the adoption of scientific methods—especially in the districts of scanty rainfall—has enabled farmers to secure profitable returns with a precipitation much less than that required formerly; consequently the boundary of successful wheat production, as laid down in 1904, has been extended further westward.

It is estimated that the wheat belt has been increased by about 13,430,000 acres since 1904. Of this increase the greatest extension has taken place in the southern wheat areas, especially in the Riverina Division, where the spring rainfall is more suited than on the North-Central Plain to filling and maturing the grain.

South of the Murrumbidgee, on the average, from 65 to 70 per cent. of the **rain** falls between the beginning of April and the end of October; in the central wheat areas (*i.e.*, the Central-Western Slope and parts of the Central Plain), the percentage for this period drops to 50 or 60, and in the northern wheat country it ranges from 45 to 55.

In determining the present wheat experience line, due consideration was given to low yields attributable to bad farming, and other preventable causes. This is a very necessary precaution, as the average wheat yields for various districts do not always accurately disclose the possibilities of the region. Notwithstanding the improvement made during recent years in cultural methods generally, the majority of farmers do not by any means obtain the maximum results possible under good treatment. The conservation of moisture by fallowing and by subsequent cultivation has not received sufficient attention, and the use of artificial manures should be more general.

The conservation of moisture in the subsoil by fallowing, and by proper treatment of the fallows, may carry over an equivalent of 5 to 8 or 10 inches of rain to supplement the falls during the growing season; and the risk of failure, in the drier western districts especially, may be greatly diminished, if not entirely eliminated, by these means.

The experience of what was long designated the "arid region" of California is adduced as evidence of what may be accomplished in the more sparsely-watered parts of New South Wales by the system of "Campbellising," or the cutting of the subsoil, with a blade having a bulb-end attached to the ploughshare, to a depth of 10 inches below the furrow, and the formation of a runnel which receives the lightest of rains, and holds the moisture in storage for feeding grain rootlets sufficiently below the surface to escape excessive evaporation by the action of the sun. The area of the old explorers' great Australian desert has shrunk with the passing of every decade, and the inland wastes of the old explorers are now brought under cultivation for pasturage and for the growing of hay and grain.

It must not be concluded that the wheat line as now laid down will remain stationary. There are still large areas, especially in northern and western Riverina, admirably suited to wheat production, and with the advance of settlement, the subdivision of large estates, and the extension of railway communication, there is every reason to believe that the area now known as the wheat belt will be extended considerably in the early future, provided that the farmers are prepared to adopt the latest approved methods of cultivation.

DRY-FARMING.

The term "dry-farming," in its general significance, is applied to any method founded on scientific principles for the production of crops without irrigation in arid or in semi-arid districts.

Dry-farming methods have been practised for many years, but advanced methods have not been adopted generally in this State, although conditions are steadily improving, and the problem of effective utilisation of the dry districts is now attracting considerable attention in agricultural and in scientific circles.

VARIETIES OF WHEAT.

Since 1897 Government agricultural experts have been experimenting in order to determine the varieties of wheat most suitable for various districts, and to secure new types which will return the best milling results under local conditions. It is gratifying to record that their efforts have been attended with marked success.

In connection with this branch of agricultural science the name of the late William J. Farrer, Wheat Experimentalist of the Department of Agriculture of New South Wales, has become world-famous. His efforts were directed towards the production of new varieties of greater milling value and more resistant to rust than the old; and his wheats, which rank amongst the most prolific grain varieties, are largely cultivated throughout the State. He and his successors have proved that Australia can produce strong white wheat equal in flour production to the old varieties, and equal in strength to the famed standard Manitoba wheat which had hitherto been imported for blending with Australian soft wheats.

Wheat experiments are conducted at the Cowra experiment farm, as headquarters, at the Hawkesbury College and at Wagga Wagga, Bathurst, Glen Innes, Nyngan, and Yanco farms, representing respectively the Coastal Belt, the Riverina, the Central Tableland, the Northern Tableland, the dry western country, and the State irrigation area. At Nyngan tests are made to determine the suitability of the different varieties of wheat for cultivation in dry areas. The work at each farm deals with:—

1. Pedigree plots of the main varieties grown on the farm.
2. Crossbreds in course of fixation for local conditions of soil and climate.

3. "Seed variety trials," including standard varieties, newly-introduced wheats, and samples sent for identification.
4. "Stud bulk plots," to provide seed for planting the farm areas.
5. "Farm areas," which in their turn supply seed-wheat to the farmers.

MILLING QUALITIES OF NEW SOUTH WALES WHEAT.

The Department of Agriculture has conducted investigations regarding variation in the strength and gluten-content of New South Wales wheats during the last fifteen years, and very interesting information regarding the milling quality of the various classes of wheat has thus become available.

For the purposes of the investigation, tests were made of five classes, which represent fairly the typical wheats grown in New South Wales:—

1. *Farrer wheats, strong flour varieties*, including such crosses as Bobs, Comeback, Cedar, and similar varieties, as well as Departmental crosses not at present in general cultivation.
2. *Farrer wheats, medium strong flour varieties*, including Federation, Bunyip, Florence, Rymer, Yandilla King, and other varieties, as well as Departmental crosses not in general cultivation.
3. *Farmers' wheats*.—Farmers' wheats under general cultivation, including some of the Purple Straw and Steinwedel type, which are being gradually replaced by the newer varieties.
4. *F.A.Q. wheat*—part of the sample taken annually by the Sydney Chamber of Commerce for the convenience of shippers, and representing the fair average quality of the wheat grown in the State.
5. *Millers' Flour*, including typical samples from both Sydney and country millers.

In this connection it is interesting to cite the latest British milling order, issued by the Board of Trade in 1916, and determining the percentage of flour that must be extracted from wheat of various qualities. Under this regulation two world wheats stand at the head of the gradation, and these are Australian and choice Bombay, each with 78 per cent. of flour-yield to the quantity of grain milled.

The figures under the term "strength" in the table below indicate the number of quarts of water required by 200 lb. of flour to make a dough of the proper consistency for baking, and it is to be understood that a high figure means not only more loaves from the quantity of flour, but loaves of better texture, lighter, and more nutritious. The figures under "gluten" are the percentages of dry gluten in the flour.

The particulars are for ten years ended March, 1917.

Class of Wheat.			1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Farrer wheats, strong flour varieties.	Strength		52.6	54.5	51.9	53.2	52.5	53.3	51.0	54.1	53.0	50.3
	Gluten		15.6	16.9	14.1	13.2	13.8	14.5	14.3	14.4	13.8	12.7
Farrer wheats, medium strong flour varieties.	Strength		47.1	49.5	47.5	47.1	46.8	47.0	46.6	44.9	49.0	45.7
	Gluten		15.0	17.8	12.1	13.3	12.6	12.2	12.9	10.0	14.6	11.2
Farmers' wheats	Strength		46.5	48.7	49.1	45.8	44.9	45.0	45.2	45.7	47.8	43.2
	Gluten		13.4	12.3	14.2	11.3	10.4	11.8	10.1	12.8	11.5	10.1
F.A.Q. for New South Wales	Strength		48.5	48.0	48.0	45.0	45.0	46.0	45.0	47.0	45.0	41.5
	Gluten		10.6	12.2	10.4	10.2	11.9	11.9	11.5	12.9	11.4	8.3
Millers' flour	Strength		49.9	49.9	48.5	46.7	47.9	47.4	49.8	47.4	44.9	45.9
	Gluten		14.6	15.6	10.2	9.8	11.4	11.4	11.5	12.0	12.4	11.5

INCREASE IN THE WHEAT YIELD.

It has been shown that the area under wheat for grain in 1915-16 was 4,188,865 acres, which was a small portion of the total area available, and even this area was not worked as profitably as it might have been. Compared with the principal wheat-growing countries of the world, an average yield of 15.9 bushels per acre is rather low, as will be seen from the following table.

The averages shown are based on the latest available returns.

Country.	Average Yield per Acre (1914-16).	Country.	Average Yield per Acre (1914-16).
	bushels.		bushels.
United Kingdom	31.80	United States	15.28
Germany	*32.32	Italy	14.46
Canada	19.68	India	11.80
France	†18.78	Russia	11.40
Hungary	*17.06	Argentina	7.58

* No official statistics available for 1914-15, and 1915-16.

† No official statistics available for 1915-16.

A bare statement of average yield is, however, not entirely conclusive, as the relative cost of production should also be taken into consideration.

Moreover, in the older countries, the efforts of farmers are more concentrated, and more intensive cultivation is necessary. In New South Wales, wherever agriculturists have confined their operations to a restricted area, and have made systematic efforts to till the soil thoroughly, their returns have been much greater than those obtained by imperfect cultivation of areas which are beyond the capacity of the holder's teams and appliances.

The crude methods of farming practised in many of the outlying districts are being replaced gradually, and it is therefore confidently expected that future yields will be considerably increased. The lack of system in farming is almost necessarily characteristic of pioneers in new countries, and in many instances settlers have engaged in the work of agricultural production with insufficient capital and with very little experience or practical knowledge.

FALLOWING.

During the last seven or eight seasons excellent object lessons have been furnished as to the benefits to be derived from a proper system of fallowing, from the systematic working of the land, and from the scientific use of fertilisers. From almost every district reports indicate that, notwithstanding the dry conditions prevailing during practically the whole period of growth, the average yield from fallowed and properly cultivated land has ranged from 20 to 40 bushels per acre. The general average yield suffers by reason of the large proportion of poor crops from stubble land, and farmers generally should adopt other methods of cultivation, since it has been proved by practical experience that fallowed and properly-worked land will give far better results.

Farmers' wheat experiment plots have been conducted by the Department of Agriculture for the last eight seasons, and the results up to 1915, as compared with the average yield for the State during the same period, are most instructive, as will be seen from the subjoined table.

Season.	State Average.	Average of Experiment Plots.
	bush. lb.	bush. lb.
1903-10	14 20	24 23
1910-11	13 7	18 45
1911-12	10 32	20 17
1912-13	14 34	24 8
1913-14	11 52	21 3
1914-15	4 39	13 0
1915-16	15 56	
1916-17	10 26	

PRICES OF WHEAT.

The price of wheat is subject to continuous fluctuation, as shown in the succeeding table, which gives the average rates ruling in the Sydney market during the months of February and March of each year since 1865. These figures exhibit clearly the tendency towards a gradual reduction in the value of the cereal down to 1895, when the price was the lowest of the series. In 1896, however, owing to a decrease in the world's supplies, the price rose considerably, and led to an extension of cultivation in Australasia. Until a few years ago, with a deficiency in the local production, the price in Sydney was generally governed by the rates obtained in the neighbouring Australian markets where a surplus had been produced. These, however, are now determined by the figures realised in London, which are usually equal to those ruling in Sydney, plus freight and charges.

The prices shown in the following table are for an imperial bushel of 60 lb., and being for new wheat are slightly below the average for the year.

Year.	February.	March.	Year.	February.	March.	Year.	February.	March.
	per bushel.	per bushel.		per bushel.	per bushel.		per bushel.	per bushel.
	s. d.	s. d.		s. d.	s. d.		s. d.	s. d.
1865	9 6	9 7½	1883	5 1½	5 2	1901	2 7	2 7
1866	8 4½	8 0	1884	4 3	4 3	1902	3 2	3 2½
1867	4 3	4 4	1885	3 10½	3 7½	1903	*5 11½	*5 9½
1868	5 9	5 9	1886	4 3½	4 5	1904	3 0½	3 0½
1869	4 9	4 10	1887	3 10	3 11	1905	3 4½	3 3½
1870	5 0	5 1½	1888	3 6	3 6½	1906	3 1½	3 2½
1871	5 7½	5 9	1889	4 9	5 3	1907	3 0½	3 1½
1872	5 0½	5 3	1890	3 6	3 6	1908	4 4	4 5½
1873	5 1	5 8½	1891	3 7½	3 10	1909	4 0½	4 6½
1874	6 9	6 1½	1892	4 9	4 9	1910	4 1½	4 1
1875	4 7½	4 6	1893	3 6½	3 6	1911	3 7½	3 5
1876	5 1½	5 6	1894	2 11	2 8	1912	3 9½	3 8½
1877	6 1½	6 6	1895	2 7	2 7	1913	3 6½	3 7
1878	6 1½	5 7½	1896	4 4½	4 5	1914	3 8	3 9½
1879	5 0	4 9½	1897	4 8	4 6½	1915†	5 6	5 6
1880	4 8	4 9	1898	4 0	4 0	1916†	5 1½	5 0½
1881	4 1	4 3	1899	2 7½	2 9	1917†	4 9½	4 9½
1882	5 5	5 6	1900	2 9	2 8			

* Imported wheat—the quotations for South Australian wheat were about 5d. per bushel higher than for the Californian wheat. † Officially fixed. ‡ Official price on trucks of wheat for flour for home consumption, equivalent to 4s. 10½d. f.o.b.

In February, 1916, the official f.o.b. price per bushel of wheat for flour for home consumption was 5s. 3½d., but this price was reduced to 4s. 10½d. on 25th March. Millers handling their own supplies obtained the wheat at 1½d. per bushel less than the f.o.b. price.

With regard to recent years, prices did not vary greatly in 1899, 1900, and 1901; there were no quotations in 1903, owing to the almost universal failure of the 1902-3 crop, but imported wheat was sold at from 5s. 8d. to 6s. 3d. per bushel during the months of February and March. In 1908-9-10 the prices were higher than in any year since 1897. During the period 1911-14 the prices were considerably lower than those of the previous three years, but in 1915 and 1916, owing to the abnormal conditions due to drought and to the War, prices were higher, and were regulated by the Government, varying from 4s. 10½d. to 5s. 6d. per bushel.

The average values of wheat in the United Kingdom for the years 1910 to 1914 were as follow;—

Country of Origin.	Average Value per Quarter.				
	1910.	1911.	1912.	1913.	1914.
	s. d.	s. d.	s. d.	s. d.	s. d.
Australia	37 2	34 10	38 5	37 6	36 6
Canada... ..	36 9	34 10	35 2	34 8	37 5
United States... ..	37 3	34 9	35 9	35 1	37 3
India	35 5	33 7	37 0	36 6	39 5
Argentina	34 11	33 4	35 6	35 8	34 1
Russia	35 7	33 4	37 6	33 11	33 6
United Kingdom	31 8	31 8	34 9	31 8	34 11

The comparison shows that the pre-war price of Australian wheat was generally higher than that of any other country from which large consignments were received.

COST OF GROWING WHEAT.

As wheat-growing ranks as one of the important industries of the State, various attempts have been made to secure data to form an accurate estimate of the cost of production. The question has always excited considerable interest, but as the cost, either for grain or for hay, depends largely upon the area cultivated and the methods of culture, the experiences of individual farmers have caused a wide diversity of opinion. The subject is of far-reaching importance, both to the producer and to the consumer, and merits careful consideration.

From inquiries made several years ago, when the system of fallowing was not so extensive as at the present time, and after taking into account the various producing factors—preparation of the soil, different methods of harvesting, and variations in railway and other freights—it appeared that the cost of landing wheat in Sydney ranged from 2s. to 2s. 6. per bushel on the basis of a 10-bushel crop. This did not include any allowance for interest on capital, or for rent. But the increased cost of labour and machinery during recent years, together with the adoption of improved methods of cultivation, necessitate a re-casting of the estimate.

In actual practice much depends upon the farmer's methods. One person will perform the same class of work with less expenditure of labour and money than another, and as the cost varies according to the return, it is impossible to reconcile the statements of cost which have been published from time to time. For this reason reference has been made to data prepared and published by the Department of Agriculture as a result of the experience gained in connection with the various experiment farms, and from other sources.

The average yield of grain during the ten years ended 1916 was just under 12 bushels per acre. This average is based on the returns from all areas, whether they be fallowed or unfallowed, manured or unmanured.

The proportion of new and fallowed land utilised for wheat is increasing steadily, and now represents about one-third of the total area sown.

During recent years fallowing has proved of great benefit for increasing the production, and in connection with a large number of trials, extending over a period of five years on private farms, the average yield was $21\frac{2}{3}$ bushels per acre. This is somewhat less than double the average yield obtained throughout the State, but it does not follow that the cost of sowing and harvesting a crop on fallowed land is double the cost of an ordinary crop of half the size on unfallowed land.

Wheat-growing is a business undertaking, and as such should be conducted on well-devised lines, taking advantage of any method which tends to reduce the cost of production or to increase the output.

For the purposes of this inquiry it is assumed that modern methods are employed, and that the land is fallowed. The items of expenditure for harrowing and cultivation are therefore greater than would be the case if the land were ploughed, worked, and sown in one season.

Rent or interest on the capital value of the land must be included, and as this item varies with the value of the land, the latter may for convenience be assumed as £6 per acre, so in the case of fallowed land it is necessary that two years' rent at 5 per cent. should be debited against the crop. Cartage, although not strictly coming within the scope of an estimate of cost of production, must be considered in its relationship to the profit-making aspect of wheat culture. This charge varies in proportion to the distance from the railway, but 1s. per ton per mile may be taken as a basis—equal to about 2d. per bushel for a distance of about 6 miles.

Under present conditions the following would be the approximate cost of producing an acre of wheat for grain on fallowed land, the estimated yield being 18 bushels per acre, the data being based on the estimated net costs as deduced by the Department of Agriculture.

	per acre.	
	s. d.	s. d.
Ploughing, once (6 in.)	6 4	14 2
Harrowing—3 times at 7d.	1 9	
Disc-cultivating, once	3 8	
Spring-tooth cultivating, once	2 5	
Drilling	1 5	9 2
Seed (45 lb. at 6s. per bushel)	4 6	
Superphosphates ($\frac{1}{2}$ cwt. at 6s. per cwt.)... ..	3 0	
Pickling seed... ..	0 3	
Insurance (say)	1 6	12 4
Harvesting with Harvester	3 10	
Bags—6 per acre at 10d.	5 0	
Sowing bags, twine, stacking bags, &c.	2 0	
	35 8	
Two years' Rent at 6s.	12 0	15 0
Cartage to Rail at 2d. per bushel (6 miles)	3 0	
	50 8	

If the land were unfallowed the following expenditure would be saved:—

	per acre.	
	s. d.	
Two harrowings at 7d.	1 4	
Disc-cultivating	3 8	
$2\frac{1}{2}$ bags at 10d.	1 11	
Cartage	1 2	
One year's rent	6 0	
	14 1	

During the three seasons ending with 1917-18 the average return to farmers will be approximately 4s. per bushel at country railway stations. Applying an average of, say, 3s. 9d. per bushel—to leave a safe margin—to the returns from fallowed and unfallowed land, the results would be as follow:—

Fallowed Land.			Unfallowed Land.		
	£	s. d.		£	s. d.
Total receipts—18 bushels at 3s. 9d. ...	3	7 6	11 bushels at 3s. 9d. ...	2	1 3
Less expenses	2	10 8	Less expenses (50s. 8d. — 14s. 1d.)	1	16 7
Profit (2 years)	0	16 10			
Equal to, per annum	0	8 5	1 year	0	4 8

From the foregoing it will be seen that the profit from fallowed land for one year is 8s. 5d. per acre as compared with 4s. 8d. per acre for unfallowed.

Wheat is purchased largely as on trucks at country railway sidings, so that the purchaser would have to pay the freight to Sydney, and other charges incidental to handling and shipping. This additional charge is assessed at about 4½d. or 5d. per bushel, but naturally it varies in accordance with the length of train haulage.

Apart from these charges is the cost of placing the cereals on the London market, and this affects selling prices, which are regulated solely by the London parity, because wheat is a world product, with a world market of which London is the pivot. The cost for exportation includes charges for freight, transshipment, insurance, and selling, and varies with the type of vessel and other conditions, but it always assists to raise the price by at least another 1s. per bushel.

GRADING, HANDLING, AND MARKETING WHEAT.

The development of the wheat industry is dependent largely upon the facilities for cheap transportation to the world's markets; and at the present time, when combined efforts are being made by scientists and practical farmers to extend the cultivation and to improve the quality of the cereal, the co-operation of commercial and transport agencies by the introduction of improved methods of grain handling is necessary for the success of the industry.

Grading.

Australian wheat for export is marketed on the basis of a single standard known as f.a.q.—that is, fair average quality. In New South Wales the standard is fixed annually by a committee of members of the Sydney Chamber of Commerce and of two Government representatives. Samples obtained from each of the wheat districts are weighed on McQuirk's patent scale, and an average struck, which is used as a standard in all wheat export transactions.

The proportion of six different grades of wheat, as well as the amount of broken and pinched grain, oats, whiteheads, etc., in a standard bushel from the wheat-producing districts of New South Wales for the last five harvests, were as follows:—

Grade.	Harvest.				
	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.
	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.
3·00 millimetre mesh ...	0 11·75	1 7	0 12	0 10½	0 3¾
2·75 " " " ...	7 0	10 8·5	12 1·5	5 8¾	4 2½
2·50 " " " ...	22 1·5	20 14·75	17 0·25	18 11¼	10 3¾
2·25 " " " ...	24 15·75	23 2·25	21 2·75	26 3½	11 0
2·00 " " " ...	5 3	5 0	7 3	5 11¾	23 5½
Broken and pinched grain	1 8	2 8	1 8·5	3 8¼	7 3
Oats, whiteheads, etc. ...	0 12	0 7·5	0 12	0 10½	0 9¾
	62 4	64 0	60 8	61 0	56 12

The f.a.q. standard of New South Wales for the 1916-17 harvest was fixed at 56½ lb. per bushel

The chief objection raised by wheat-growers to this method of grading on a single standard is that it discourages the cultivation of grain of superior quality which does not command a price commensurate with its greater value as compared with wheat which just reaches the standard. Moreover, it is stated that the weight of the grain is not a true indication of its quality, the standard of which varies according to the purpose for which it is required.

The following comparison shows the standard in New South Wales for each season since 1899-1900, and the date on which it was fixed in each year.

Year.	Date Fixed.	Standard.	Year.	Date Fixed.	Standard.
		lb.			lb.
1899-1900	23rd Feb., 1900	61	1908-1909	22nd Jan., 1909	61½
1900-1901	21st ,, 1901	61	1909-1910	31st ,, 1910	62
1901-1902	27th Jan., 1902	61½	1910-1911	13th Feb., 1911	62¼
1902-1903	None fixed—drought.		1911-1912	1st ,, 1912	61½
1903-1904	23th Jan., 1904	61	1912-1913	31st Jan., 1913	62¼
1904-1905	19th ,, 1905	59½	1913-1914	19th ,, 1914	64
1905-1906	24th ,, 1906	62	1914-1915	15th Feb., 1915	60½
1906-1907	24th ,, 1907	62¼	1915-1916	21st ,, 1916	61
1907-1908	24th ,, 1908	62½	1916-1917	12th Mar., 1917	56¾

Methods of Transport.

Under the present system of transport the wheat is bagged on the farm and brought to the nearest railway station, whence that intended for export is carried in bags by rail to Sydney for shipment. At some of the stations the Railway Department has erected sheds, and a small charge is made for storage. At Darling Harbour, Sydney, where all the grain ships are loaded, sheds and bag elevators have been provided.

This system has many disadvantages, apart from the cost of bags and the great amount of labour required for handling bagged grain. In the event of a large yield, considerable loss is caused by delays at country railway stations, especially where the shed accommodation is insufficient, and the stacks are exposed to damage from rain, the attacks of mice, and destruction or deterioration from other causes, and where the supply of rolling-stock is inadequate, because the space at Sydney is too limited for the speedy manipulation of trucks.

A contrast to these methods is found in the United States, in Canada, in Russia, and in Argentina, where wheat is handled in bulk. In Canada, for example, the grain is brought from the farms and stored in a loose condition in elevators at country railway stations pending transport by rail to large terminal elevators in the trading and shipping centres. On depositing the grain in the country elevator the farmer may obtain a certificate of its weight and quality; this certificate is guaranteed by the Government, and practically has legal currency in the Dominion.

Comparative Rates of Freight.

The extra cost to Australia for freight to the United Kingdom will be seen in the following comparison. Freight charges, however, vary considerably throughout the year, and the averages given hereunder—based on monthly quotations appearing in Broomhall's *Corn Trade News*—show that the charges during 1913 were much below those for 1912 for each country except Australia.

Country.	Average Freight per ton (2,240 lb.)		Country.	Average Freight per ton (2,240 lb.)	
	1912.	1913.		1912.	1913.
United States—	s. d.	s. d.	Russia—	s. d.	s. d.
San Francisco ...	23 2	.....	Odessa ...	13 2	9 10
New York ...	10 9	8 11	India—		
Argentina—			Bombay ...	21 5	17 9
Upper River Plate ...	24 5	18 10	Karachi ..	20 6	17 3
Lower River Plate...	22 9	16 11	Australia ...	29 3	31 3
Bahia Blanca ...	22 6	21 1			

The abnormal conditions which prevailed during 1914, 1915, and 1916 render further comparisons practically useless, but the above statement emphasises the necessity of adopting in Australia the most economical method of handling grain, in order to compensate for the high cost of ocean transport as compared with similar cost to other wheat-producing countries. The rates from all the ports shown above are much lower than from Australia, and the cost of insurance is also less in proportion to the length of the sea journey.

Bulk Handling in Australia.

The expediency of introducing the bulk-handling system has been the subject of many inquiries and investigations in the wheat-producing States of Australia.

The annual production cannot yet be compared with that of the United States, Canada, or other large wheat countries, but it is increasing rapidly, and has already reached the stage when the adoption of the elevator system is necessary for its advantageous development.

At all English ports to which wheat is shipped it is received in bulk as well as in bags; and at nearly all the principal docks there are elevators, by which wheat arriving in bulk can be unloaded with greater rapidity and at less expense than grain in bags. Shipowners prefer wheat to be sent in bulk, on account of the economy in space and of the more rapid discharge of cargo, but the merchants prefer the system of transport in bags. The chief reason is, apparently, that bagged wheat is weighed in small lots of about 3 bushels, and on each occasion the merchant gets the benefit of the draft required to turn the scale; whereas bulk wheat is weighed in lots of 1 ton or more. However, no objection is made by merchants handling Argentina wheat, which is brought to England in bulk in large quantities under somewhat similar conditions as the Australian cereal. Wheat is also received at English ports in bulk from Russia, the United States, and Canada.

In reporting on the elevator system generally the representative of the New South Wales Government in the United States considered that it was undoubtedly the only system by which grain might be handled efficiently. It was quicker in every respect, besides allowing of the proper grading and cleaning of the grain. The principal advantages of the system are summarised as follow:—

1. The immense saving in labour, time, and cost of handling the grain; terminal elevators in America receive, unload, store the grain for any period up to ten days, and load it into ships for a charge equal to one farthing per bushel.
2. The saving in shipping charges by the reduction of the time occupied in loading and unloading, and the consequent reduction in harbour and wharfage dues, as well as in the ship's charter time.
3. The reduction of the area of water frontage and wharfage accommodation necessary, owing to the expedition in loading and unloading.
4. The expedition in unloading railway cars, thus doing away with the congestion at the terminal point, and releasing the cars with much greater celerity than is possible at present.
5. The avoidance of the loss now accruing in handling by the leakage from torn sacks.
6. The absolute security of the grain during transportation from any condition of weather, by its being in rainproof cars, these cars also preventing any possibility of pilfering.
7. The ease of cleaning and grading grain, thus saving carriage on dirt as well as sacks.
8. The saving to the farmer of the cost of providing sacks every season.
9. The abolition of the man-killing work of handling grain in sacks.
10. The placing of our grain upon the London market in better condition by reason of its being cleaned and graded, the saving of the handling operations at that end, and the securing of better competition among the buyers (at present many of the buyers deal only in grain coming to the Continent in bulk).

More recently the Government obtained a report regarding the bulk handling of wheat from the President of the Burrell Engineering and Construction Company, of Chicago, U.S.A. As a result of investigations, an elevator system is considered essential to the welfare of the wheat-growers and the consumers.

The most recent investigations made on behalf of New South Wales date from 1913. A report on the elevator system in North America was obtained from the New South Wales Government representative in the United States, and the President of the Burrell Engineering and Construction Company of Chicago, U.S.A., visited this State to report upon bulk-handling in New South Wales.

In the latter report it was recommended that two terminal elevators be erected, one at Sydney and one at Newcastle; that 1,000 box-cars be provided wherein to transport the grain from the country railway stations, at which it was suggested that elevators, ranging from 50,000 to 200,000 bushels in capacity, should be erected by the farmers on a co-operative basis.

MAIZE.

Maize ranks second in importance amongst the crops of New South Wales, but its cultivation is small in comparison with that of wheat, and sufficient is not grown for local consumption.

Maize is cultivated chiefly in the valleys of the coastal rivers, where both soil and climate are peculiarly adapted to its growth. On the Tableland also good results accrue, but as the physical contour of the country rises in elevation so does the average yield per acre decrease; although, in compensation, the grain produced is of a more enduring quality for export and for storage. Moreover, encouraging progress is being made, in the uniformity of the variety of selection, to a type which has been proved by experience to be adapted to the particular district; and, at the same time, the yielding capacity is being increased steadily by selection according to the system known as the ear-to-row test. In this connection, experiments with the grain in progress on the Murrumbidgee irrigation areas indicate the probability of its development as a highly profitable crop under this form of culture, as it has already proved to be in irrigated districts of the States of the North American Union; but it will probably be found requisite to select varieties adapted specially to the altered conditions, and to plant the grain at a period more advanced in the season than is customary in districts adjoining the littoral.

The following statement shows the distribution of the area under maize for grain during the season 1915-16, with the production and average yield in each Division.

Division.	Area under Maize for Grain.		Yield.	
	Total.	Proportion in each Division.	Total.	Per Acre.
Coastal Belt—	acres.	per cent.	bushels.	bushels.
North	61,686	40·0	1,658,205	26·9
Hunter and Manning	32,484	21·2	872,238	26·8
Cumberland	1,921	1·1	45,996	23·9
South	12,184	7·9	411,366	33·8
Total	108,275	70·2	2,987,805	27·6
Tableland—				
Northern	21,533	14·0	359,979	16·7
Central	4,919	3·2	100,179	20·4
Southern	624	0·4	8,649	13·8
Total	27,076	17·6	468,807	17·3
Western Declivity	18,529	12·0	313,278	16·9
Central Plains, Riverina, and Western Plains	250	0·2	3,710	14·8
All Divisions..	154,130	100·0	3,773,600	24·5

The North Coast, the most important maize-growing district in the State, in 1915-16 yielded 44 per cent. of the total production, although the average yield was only 26·9 bushels per acre. After the North Coast, the Hunter and Manning Division showed the largest area under crop. On the North Coast, the best counties were Dudley, Rous, and Clarence, which gave 30·9, 28·5, and 27·5 bushels per acre respectively. In 1915-16 the average yield on the tableland was 17·3 bushels per acre, compared with 18·2 for 1914-15. On the Western Declivity the yield was 16·9 bushels per acre, the corresponding figure for 1914-15 being 9·3 bushels. At an early period in the history of the North Coast maize displaced wheat as a product, and the pursuit of dairy-farming in turn displaced maize, though latterly the fodder needs of the dairy herds restored its cultivation, and a large proportion of the cereal is cut as green food.

The following statement exhibits a comparative review of the maize crop since the season 1894-5.

Season.	Area under Maize for Grain.	Production.		Season.	Area under Maize for Grain.	Production.	
		Total.	Average per Acre.			Total.	Average per Acre.
	acres.	bushels.	bushels		acres.	bushels.	bushels
1894-5	208,308	5,625,533	27.0	1905-6	189,353	5,539,750	29.3
1895-6	211,104	5,687,030	26.9	1906-7	174,115	5,763,000	33.1
1896-7	211,382	5,754,217	27.2	1907-8	160,980	4,527,852	28.1
1897-8	209,588	6,713,060	32.0	1908-9	180,812	5,216,038	28.8
1898-9	193,286	6,064,842	31.4	1909-10	212,797	7,098,255	33.4
1899-0	214,697	5,976,022	27.8	1910-11	213,217	7,594,130	35.6
1900-1	206,051	6,292,745	30.5	1911-12	167,781	4,507,342	26.9
1901-2	167,333	3,844,993	23.0	1912-13	176,471	5,111,990	29.0
1902-3	202,437	3,049,269	15.1	1913-14	156,820	4,453,309	28.4
1903-4	226,834	6,836,740	30.1	1914-15	143,663	3,174,825	22.1
1904-5	193,614	4,951,132	25.6	1915-16	154,130	3,773,600	24.5

During the last twenty years there have been several fluctuations in the area under cultivation. The largest area—226,834 acres—was cropped in 1903-4, but the largest yield was produced in 1910-11. The yield per acre is somewhat variable, ranging from 15.1 bushels in 1902-3 to 35.6 bushels in 1910-11, though the average has a tendency to decrease, owing to the reduction of the area on account of the increasing attention given to dairy-farming in the coastal districts, where the average yield is highest. In the most favourable localities yields of 80 to 100 bushels per acre have been obtained, and probably few places in the State are better suited to the growth of maize than the coastal districts. The yields during the past five years have been below the average for the decennial period ended 1916.

The rainfall during the 1915-16 season was distributed most unfavourably in the north coastal districts, and the retardation of the usual monsoonal rains adversely affected the maize crops generally. Though the rainfall was, in a general sense, better than that of the previous year, there was a shortage of moisture at the beginning, and an excess at the end of the twelve months. The area planted with the cereal was, with the exception only of the previous year, the lowest since 1886-7, and the production—with the exception of the drought year 1902-3—was also the lowest since the same season if the previous year be again excluded.

There is no doubt that the uncertainty as to prospective realisable price—an uncertainty which applies to all produce grown only for local consumption—has caused a decrease in the cultivation of this cereal on the Coast and on the Tableland, while on the other hand the profits accruing from dairy-farming have led to its further neglect. Another possible reason for the decline in its cultivation has been the small attention given to scientific experiment with the cereal for purposes of selection and propagation. During recent years wheat has received intensively close study as to the kinds suited to different localities and varying climatic conditions, and as to improvements in cultivation and harvesting; but maize has received little consideration hitherto, though there are indications of a revival of interest among agricultural experts who desire to stimulate its successful production.

During the year 1915-16 the Department of Agriculture continued the work of maize-breeding on the State farms, with a view to raising improved pure seed maize. To prevent crossing, only one variety is grown on each farm, except at Grafton, where an early and a late variety may be grown without risk. Maize differs from most other crops in being readily cross-fertilised, and the initial work in breeding consists largely in eliminating the impurities represented by previous crossing with other varieties.

OATS.

The cultivation of oats has been much neglected in New South Wales, and the deficiency between production and consumption is considerable, though where cultivation has been undertaken, the return has been fairly satisfactory. The elevated districts of Monaro, Argyle, Bathurst, and New England contain large areas of land on which the cultivation of oats could be maintained with excellent results.

This cereal is cultivated as a grain crop, principally in the wheat-growing districts; and, essentially a product of cold climates, it thrives best in regions which experience a winter of some severity. The principal Divisions cultivated are the Tableland, the Central and South Western Slopes, and the Riverina.

The area under crop for grain in 1915-16 was 58,636 acres, which produced 1,345,698 bushels, being 23 bushels per acre, as compared with 43,476 acres, which yielded 513,910 bushels in the previous year. A dry season was responsible for the largely diminished acreage and production in 1914-15, and except on the Tableland, the results were very disappointing. During the 1915-16 season, wheat was in great demand owing to the European war, and to the depletion of local stocks due to the low production in the previous year, and the cultivation of oats—in common with that of other cereals—was not undertaken to the extent it had been in normal ante-bellum years. The season, however, was favourable, and the area sown for grain shows an advance of nearly 35 per cent on that of the previous season, while the quantity of grain produced was nearly two and two-thirds as large. The Southern Tableland gave the best average, with 27 bushels per acre. In the whole of the Tableland Division 17,217 acres were under crop, and yielded 391,185 bushels, or 22·7 bushels per acre; on the South-Western Slope, 17,533 acres gave 41,676 bushels, or 23·8 bushels per acre, while in the Riverina the production was 388,746 bushels from 16,086 acres, or 24·3 bushels per acre. These three Divisions accounted for about 89 per cent. of the total production. In the remainder of the State there were only 7,800 acres under cultivation, which yielded 149,007 bushels.

The following table illustrates the progress in the cultivation of oats for grain since 1895-6.

Season.	Acres under Oats for Grain.	Production.		Season.	Acres under Oats for Grain.	Production.	
		Bushels.	Bushels per Acre.			Bushels.	Bushels per Acre.
1895-6	23,750	374,196	15·8	1906-7	56,431	1,404,574	24·9
1896-7	39,530	834,633	21·1	1907-8	75,762	851,776	11·2
1897-8	28,605	543,946	19·0	1908-9	59,881	1,119,558	18·7
1898-9	19,874	278,007	14·0	1909-10	81,452	1,966,586	24·1
1899-0	29,125	627,904	21·6	1910-11	77,991	1,702,706	21·8
1900-1	29,383	593,548	20·2	1911-12	71,047	1,155,226	16·3
1901-2	32,245	687,179	21·3	1912-13	85,175	1,674,075	19·7
1902-3	42,992	351,758	8·2	1913-14	103,416	1,835,406	17·7
1903-4	51,621	1,252,156	24·3	1914-15	43,476	513,910	11·8
1904-5	40,471	652,646	16·1	1915-16	58,636	1,345,698	23·0
1905-6	38,543	883,081	22·9				

The area under oats for grain, with slight fluctuations, remained practically stationary until the season 1893-4, when over 13,000 acres were added; the area has since increased, and in 1913-14 reached 103,416 acres. The average yield varied considerably, in a fair season exceeding 20 bushels per acre, and in a bad year falling below half that measure of productivity, but the average for the last ten years has slightly exceeded 19 bushels. The

lowest average yield was 8.2 bushels per acre in 1903, when the crop almost failed, owing to the unfavourable season; and the highest was 24.9 bushels in 1907.

The market for oats is chiefly in the metropolitan district, and the demand depends mainly on the price of maize. The production is far from sufficient for the wants of the State, and large quantities are imported from Victoria, Tasmania, and New Zealand.

BARLEY.

Barley is an important crop, but at present it is produced only on a moderate scale, although there are several districts where the necessary conditions as to soil and drainage present inducements for cultivation, particularly with regard to the malting varieties. Barley is grown mainly in the Tamworth district, on the North-Western Slope, the area in that part during 1915-16 being 2,041 acres—as compared with 981 acres in the previous season—from which the bulk of the produce was for malting purposes. The areas under crop in other districts are small, and do not call for special notice. For the State as a whole the following table shows the area under barley for grain, together with the production during the last twenty-two years.

Season.	Area under Barley for Grain.	Production.		Season.	Area under Barley for Grain.	Production.	
		Total.	Average per Acre.			Total.	Average per Acre.
	acres.	bushels.	bushels.		acres.	bushels.	bushels.
1894-5	10,396	179,348	17.3	1905-6	9,519	111,266	11.7
1895-6	7,590	96,119	12.7	1906-7	7,879	152,739	19.1
1896-7	6,453	110,340	17.1	1907-8	11,890	75,148	6.3
1897-8	5,151	99,509	19.3	1908-9	9,507	166,538	17.5
1898-9	4,459	64,094	14.4	1909-10	15,091	272,663	18.1
1899-0	7,154	132,476	18.5	1910-11	7,082	82,005	11.6
1900-1	9,435	114,228	12.1	1911-12	10,803	129,008	11.9
1901-2	6,023	103,361	17.2	1912-13	16,916	289,682	17.1
1902-3	4,557	18,233	4.0	1913-14	20,610	303,447	14.7
1903-4	10,057	174,147	17.3	1914-15	4,861	46,500	9.6
1904-5	14,930	266,781	17.9	1915-16	6,369	114,846	18.0

The table shows considerable fluctuation as to the area cultivated, as well as to the average production per acre, thus indicating that farmers consider it more profitable to devote their attention to the cultivation of other cereals, for which immensely larger areas are annually cropped.

The grain yield varied greatly, and ranged from 4 bushels per acre in 1902-3, when the crop practically failed, to the excellent rate of 21.9 bushels obtained in 1886-7. The average crop during the last ten years has been 14.7 bushels per acre, but this rate should not be regarded as characteristic, as the returns for many seasons indicate that an average crop of 18 bushels per acre may be expected under normal conditions, and this was the actual return for the season 1915-16.

RYE.

Rye is cultivated to a very limited extent, and is grown either in separate areas or in combination with leguminous crops, in the greater number of instances as green food for dairy cattle, the supply for grain being obtained mainly in the Tableland. The area under this cereal for grain during 1915-16 was 2,778 acres, with a total yield of 32,220 bushels, at the rate of 11.6 bushels per acre. In 1904 an average of 16.3 bushels was obtained.

BROOM MILLET.

Broom millet is a small but valuable crop, and during the last ten seasons the return from fibre alone gave an average of £22,488 per season. In 1914-15, owing to unfavourable conditions, the area under broom millet and the average production per acre were much smaller than in previous years, and 2,027 acres yielded 10,400 cwt. of fibre and 6,580 bushels of seed, valued at £14,560 and £1,580 respectively; but in 1915-16 there was a marked improvement in the yield, 2,422 acres producing 15,168 cwt. of fibre and 18,060 bushels of seed, valued at £24,650 and £4,060 respectively. The average yield of fibre during the last ten seasons was 7·1 cwt. per acre. In 1904, and in the seasons 1910-12, the averages exceeded 8 cwt. per acre. The greater part of the crop is grown in the valleys of the Hunter and the northern coastal rivers. The experimental cultivation of broom millet on the irrigation areas has proved even more successful, as the plant grown there does not appear to be subject to certain fungoid troubles which are occasionally encountered on the districts of the eastern littoral.

HAY.

A very considerable proportion of the areas under wheat, oats, barley, and lucerne is utilised for the production of hay for farm stock and of cut chaff for the markets. The proportion is increasing, but the extent of the increase depends on the climatic conditions of the season, which determine the future of crops for grain purposes, or for their conversion into hay and cut chaff.

The following statement shows the area under each crop for hay, the total production, and the average return per acre during the last six seasons.

Type of Hay.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
AREA.						
	acres.	acres.	acres.	acres.	acres.	acres.
Wheaten	422,972	440,243	704,221	534,226	569,431	879,678
Oaten	142,805	147,710	182,955	211,606	161,320	176,183
Barley... ..	1,014	1,246	1,708	1,395	1,179	1,348
Lucerne	70,559	63,824	56,420	52,479	52,582	50,544
Rye, etc.	1,227	1,126	1,762	1,424	1,432	1,166
Total	638,577	654,149	947,066	801,130	785,944	1,108,919

PRODUCTION.						
	tons.	tons.	tons.	tons.	tons.	tons.
Wheaten	467,669	423,262	779,500	588,127	354,531	1,211,677
Oaten	193,064	155,653	212,266	256,814	147,420	259,476
Barley... ..	1,128	1,201	2,108	1,552	1,112	1,575
Lucerne	179,860	147,423	112,761	107,045	108,934	100,075
Rye, etc.	1,359	935	1,640	1,509	1,238	1,135
Total	843,080	728,474	1,108,275	955,047	613,235	1,573,838

AVERAGE PRODUCTION PER ACRE.						
	tons.	tons.	tons.	tons.	tons.	tons.
Wheaten	1·11	0·96	1·11	1·10	0·62	1·38
Oaten	1·35	1·05	1·16	1·21	0·91	1·47
Barley... ..	1·11	0·96	1·23	1·11	0·94	1·17
Lucerne	2·55	2·31	2·00	2·85	2·07	1·98
Rye, etc.	1·17	0·83	0·93	1·06	0·86	0·96
All varieties ...	1·32	1·11	1·17	1·19	0·78	1·42

In 1915-16 about 79·3 per cent. of the total area under cultivation for hay was taken up by the wheaten variety. Until 1894 the area reaped for wheaten hay increased at a much greater rate than that for grain, but during subsequent years there has been a greater development in the cultivation of wheat for grain.

In general, oaten crops are grown in parts of the State which, on account of the climate, are unsuitable for maturing the grain, and preference is given to cultivation for hay; moreover, the prices obtainable for the hay are usually so profitable as to prejudice any material development of the grain harvest.

The area under barley for hay is inconsiderable. Lucerne is always in demand, and consequently realises remunerative prices. It gives the best return of all hay crops, the average yield during the last ten years having been over 2 tons per acre for lucerne, and 1·4 tons for oaten, barley, and wheaten hay, or a little over a ton for each variety. In favourable districts, and with careful attention, lucerne grows so rapidly that, from a series of crops, even as many as eight cuttings may and have been procured, with an average result of 1 ton per acre for each.

GREEN FOOD AND SOWN GRASSES.

The great advance in the dairying industry, the details concerning which are treated elsewhere, has caused a corresponding increase during recent years in the cultivation of cereals, lucerne, and grasses for green food. The sowing and cultural development of artificial grasses have received great attention, particularly in the northern and southern coastal districts, the great centres of the dairy farming of the State. Considerable areas have been sown also in the Central Tableland, and smaller cultivations have been undertaken in the Northern and Southern Tablelands and in the Murray Valley.

The following statement shows the increase in the area cultivated for green food and sown with artificial grasses since the season 1886-7:—

Season.	Area Cultivated for Green Food.	Area Sown with Grasses.	Season.	Area Cultivated for Green Food.	Area Sown with Grasses.
	acres.	acres.		acres.	acres.
1890-1	37,473	388,715	1907-8	260,810	736,080
1895-6	66,833	300,862	1908-9	235,539	807,924
1900-1	78,144	422,741	1909-10	118,960	888,937
1901-2	113,060	467,839	1910-11	179,382	1,055,303
1902-3	109,287	477,629	1911-12	211,874	1,119,764
1903-4	77,130	552,501	1912-13	154,535	1,152,449
1904-5	87,718	607,997	1913-14	146,239	1,234,455
1905-6	95,058	627,530	1914-15	949,619	1,251,453
1906-7	122,914	697,631	1915-16	162,945	1,247,099

The great advance in cultivation shown in the table indicates the appreciation by the farmers of the necessity of enriching the deteriorated pastures, and of replacing the grasses which have disappeared.

The largely-increased area under green food during 1914-15 was due entirely to the dry season, as the crops on numerous holdings failed to mature either for grain or for hay. No less than 815,561 acres sown with wheat were fed-off by stock, or otherwise used for green feed; but in 1915-16 the area so treated comprised only 53,702 acres.

Lucerne is grown in considerable quantities on the Hunter River flats, and the cultivation of this fodder is extending throughout the country,

principally along the banks of the rivers flowing from the western watershed of the Dividing Range. The theory that lucerne can be grown to advantage only on river-flats is not now accepted, and marked success has been obtained from hillside cultivation and from growths on red wheat-lands. In the far western pastoral districts excellent results have attended attempts made to cultivate lucerne under irrigation. During 1915-16 there were 43,880 acres grown for green food, and if to these be added the area under hay, viz., 50,544 acres, there were altogether 94,424 acres under this fodder-plant.

ENSILAGE.

New South Wales is liable, at irregular and indeterminate intervals, to long periods of dry weather, hence the necessity for such precautionary insurance against the sporadic visitations of drought as the conservation of green foods in the form of ensilage. The possession of stocks of ensilage is also highly advantageous to the prosecution of dairying in the districts of the coast, where the conditions are unfavorable to the growth of winter fodder.

The quantity of ensilage made during the last five years is shown in the following table.

Division.	Ensilage Prepared.				
	1911.	1912.	1913.	1914-15.	1915-16.
	tons.	tons.	tons.	tons.	tons.
Coastal Belt	12,099	8,222	6,633	8,333	7,028
Tableland	1,649	608	920	1,060	800
Western Declivity	3,097	4,527	3,450	700	5,788
Central Plains and Riverina	3,632	5,162	7,363	870	4,595
Western Plains ... ..	..	..	..	..	300
Total	20,477	18,519	18,366	10,963	18,511

Comparatively little attention has been devoted to the construction of silos and to the storing of ensilage, but the necessities of the grazier will compel him to make provision by preserving and storing the green food, when opportunities occur in the growing season of the year, and when the policy of closer settlement shall have reduced the large areas of land hitherto available for feeding stock.

The quantity of ensilage made each year during the last decade has varied considerably, especially during the first half of the period. The year of maximum production was 1909, when 34,847 tons were made on 364 farms. The production since decreased steadily until, in 1914-15, the quantity made was only 10,963 tons. This amount was made on 83 farms, and was valued at £18,014. There was an improvement, however, in 1915-16, when the quantity made was 18,511 tons, the product of 130 farms, and valued at £23,425. It is particularly noticeable in the foregoing table that on the Western Plains, where there is the greatest need of such provision, the quantity of ensilage made is almost negligible. It is, of course, possible that the amount of fodder required to tide over even a moderately severe drought is so great as to deter pastoralists from attempting to conserve even small quantities.

In the dairying districts, particularly of the South Coast, the making of ensilage is more general, the quantity there conserved being larger than in any other Division, though there has been a marked increase in the South Western Slope and in the Riverina.

POTATOES.

The bulk of this State's potatoes is grown on the Tableland, especially in the central portion, where, in 1913-14, there were 17,497 acres under cultivation; one county, Bathurst, had 11,585 acres, or nearly one-third of the whole area in the State devoted to this root crop. After the Tableland, the coastal districts grow the largest quantity, the return for the former in 1915-16 being 36,969 tons from 15,616 acres, and for the latter 6,410 tons from 3,487 acres. The yield from the Western Declivity was 1,027 tons from 457 acres. The highest average yield was 5 tons to the acre from 2 acres in the county of Harden, in the South-Western Slope, and in that portion of the county of Murray, in the Southern Tableland, which is included in the Federal Territory, 5 acres gave a return of 21 tons, or 4·2 tons per acre. The average yield for the South-Western Slope was 3 tons per acre, but the county of Wynyard, with 520 tons from 162 acres, gave an average yield of 3·21 tons per acre. From 2 acres on the Western Plains (east of the Darling) the yield was 3 tons per acre. Out of 1,171 acres in the Division of the North Coast cropped with potatoes, the county of Clarence had 817 acres producing 373 tons, but the county of Fitzroy gave the highest return, namely, 608 tons from 205 acres, or 2·96 tons per acre. In the Division of the Hunter and the Manning, out of 1,020 acres yielding 1,859 tons, the county of Durham had 579 acres yielding 1,059 tons.

As a potato-producer the metropolitan county of Cumberland comes 19th on the list out of the 141 counties of the State, with 577 tons from 288 acres, and an average yield of 2·24 tons to the acre. In the South Coast, the county of Camden had a potato production of 914 tons from 399 acres, out of a total for the Division of 6,410 tons from 1,038 acres; but the greatest average yield was from the county of St. Vincent, namely, 868 tons from 287 acres, showing an average yield of 3·02 tons per acre. The yield for the whole of the Coastal Belt was 6,410 tons from 3,487 acres.

The Northern Tableland had under crop to potatoes 6,038 acres, which yielded 36,969 tons, to which from 2,437 acres the county of Sandon contributed 5,570 tons, the county of Hardinge from 1,332 acres 3,682 tons, the county of Clarke from 957 acres 2,881 tons, and the county of Gough from 905 acres 2,201 tons; but the county of Vernon had the highest yield per acre, namely, 3·31 tons, the county of Clarke coming next with 2·95 tons.

The Central Tableland had an area under potatoes of 6,610 acres, yielding 13,808 tons, of which the county of Bathurst cultivated 3,457 acres returning 6,784 tons, the county of Westmoreland 1,433 acres (returning 3,110 tons), and the county of Georgiana 744 acres (returning 1,939 tons). The last-mentioned county had the highest average yield, namely 2·60 tons to the acre. The Southern Tableland had an area under potatoes of 2,968 acres, yielding 7,749 tons, of which the county of King cultivated 1,319 acres (returning 3,655 tons) and the county of Argyle 1,033 acres (yielding 2,325 tons); but, apart from that portion of the county of Murray lying within the Federal Territory, the highest yield was from the county of Wellesley, namely 3·17 tons per acre. The total area of the Tableland under potatoes was 15,616 acres, and its total yield 36,969 tons, with an average of 2·37 tons per acre.

The North-Western Slope had 220 acres under potatoes, yielding 369 tons, the county of Parry's average yield per acre being 3·04 tons, and that of the county of Pottinger 3 tons. The Central Western Slope had only 28 acres under potatoes, yielding 31 tons. The South-Western Slope had

209 acres, yielding 627 tons. The highest average yield was from 2 acres in the county of Harden, namely, 5 tons to the acre. The total area of the Western Declivity under potatoes was 457 acres, yielding 1,027 tons.

For the remainder of the State the production of potatoes was negligible. The North Central Plain had 5 and the Central Plain 12 acres respectively under cultivation to this root crop, yielding a total of 19 tons. The Riverina had 10 acres, yielding 14 tons, and the Western Plains (east of the Darling) 2 acres, yielding 6 tons.

The following statement shows the area under cultivation and the production at intervals since the season 1890-1.

Season.	Area under Crop.	Production.		Season.	Area under Crop.	Production.	
		Total.	Average per Acre.			Total.	Average per Acre.
	acres.	tons.	tons.		acres.	tons.	tons.
1890-1	19,406	52,791	2.72	1907-8	31,917	55,882	1.75
1895-6	24,722	56,179	2.27	1908-9	26,301	71,794	2.73
1900-1	29,408	63,253	2.15	1909-10	35,725	100,143	2.80
1901-2	26,158	39,146	1.50	1910-11	44,452	121,033	2.72
1902-3	19,444	30,732	1.58	1911-12	43,148	75,166	1.74
1903-4	20,851	56,743	2.72	1912-13	34,124	91,642	2.69
1904-5	23,855	48,754	2.04	1913-14	38,725	106,849	2.76
1905-6	26,374	50,386	1.91	1914-15	30,418	40,709	1.34
1906-7	36,815	114,856	3.11	1915-16	19,589	44,445	2.27

There was a marked increase in cultivation in the season 1894-5, when 30,089 acres were planted; but the continuous fluctuation in the area from year to year since that time clearly shows that the possible advantages of this crop have been much neglected.

The average yield during the last ten years has been 2.41 tons per acre, and the highest 3.11 tons per acre in 1906-7. The small production per acre during 1914-15 was due mainly to the effects of the dry season, but that of the succeeding year 1915-16 showed an approximation to the general average of the decennium.

The average wholesale prices per ton of potatoes at Sydney during the season 1915-16 are shown below.

Month.	Local.	Victorian.	Tasmanian.	Month.	Local.	Victorian.	Tasmanian.
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
1915.				1916.			
July ...	8 17 0	10 2 0	10 10 0	January ...	14 6 9	.....	16 5 0
August ...	7 2 6	9 0 0	9 13 9	February...	10 0 0	.....	15 0 0
September...	5 18 0	.....	9 12 6	March ...	9 10 0	.....	10 16 6
October ...	10 6 9	9 0 0	12 0 0	April ...	7 7 0	8 10 0	8 0 6
November...	11 5 0	.....	16 12 0	May ...	6 15 0	.....	8 8 3
December ...	14 15 0	15 0 0	16 15 0	June ...	6 10 9	.....	7 10 9

The slow progress in the cultivation of potatoes is caused largely by the cost of carriage to market, as compared with the cheap water transport from Victoria and Tasmania. Some years ago the coastal districts produced large quantities; but the cultivation was abandoned owing to the prevalence of pests, which continually devastated the crops and for which at the time no remedy was available.

MINOR ROOT CROPS.

The cultivation of root crops other than potatoes requires only brief notice, as, in addition to those included in market gardens, only 1,866 acres were planted with onions, turnips, mangel-wurzels, carrots, sweet potatoes, arrowroot, and artichokes. The area under turnips was 1,055 acres, which yielded 4,627 tons, or 4.39 tons per acre. The probable reason for the small attention paid to the growth of onions, of which there were only 190 acres yielding 791 tons, is the uncertainty as to the price obtainable for the produce, there being no lack of soil suited to the cultivation of this edible bulb. Large importations are consequently necessary to meet the local demand. The State Department of Agriculture, in order to encourage the cultivation of the onion, has introduced experiment plots to farm-holdings, with a view to fostering its more extended growth, and the results have so far been highly satisfactory.

The area under sweet potatoes was 603 acres, and the estimated yield 3,369 tons. In many cases pigs were turned on the crops. Of mangel-wurzels there were under cultivation only 8 acres, which yielded 58 tons. In some of the more elevated dairying districts, mangel-wurzels are now being grown as winter fodder for cattle. Excellent results in the cultivation of arrowroot have been obtained at the Wollongbar experiment farm, near Lismore.

TOBACCO.

The growing of tobacco as an industry has been conducted for many years, but with considerable fluctuation in the annual production. This may be attributed to the necessity for special knowledge and care in its cultivation and curing, and probably no material advancement will be made until trade pressure in other countries forces attention to new fields of production.

With the exception of 12 acres in the Hunter River District, tobacco culture is confined to the northern and southern portions of the Western Declivity and the Central Tableland.

The following statement shows the extent of the cultivation of tobacco during the last ten seasons.

Season.	Area.	Production of Dried Leaf.		Season.	Area.	Production of Dried Leaf.	
		Total.	Average per Acre.			Total.	Average per Acre.
1906-7	acres. 691	cwt. 5,371	cwt. 8.9	1911-12	acres. 1,501	cwt. 15,045	cwt. 10.0
1907-8	533	3,438	6.5	1912-13	1,914	13,863	7.2
1908-9	618	3,838	6.2	1913-14	1,992	18,117	9.1
1909-10	1,096	6,498	6.8	1914-15	1,563	10,065	6.4
1910-11	959	8,513	7.8	1915-16	1,277	9,563	7.5

For seven or eight years prior to 1889 the area under cultivation grew steadily, until in that year it reached the maximum of 4,833 acres. As, however, the local product did not compare favourably with the American leaf, it could not be exported profitably, and a large proportion of the crop remained upon the farmers' hands. Moreover, the quantity sold realised very unsatisfactory prices, due mainly to failure in production of a first-grade article, hence many growers abandoned tobacco in favour of other crops. With disappointing fluctuations the area had declined by 1907-8 to 533 acres. Since that year it has, however, increased to 1,277 acres, owing to the greater attention paid to the processes of curing, and tobacco manufacturers have endeavoured to stimulate the industry by paying adequate prices for good leaf, and by employing expert assistance to aid and instruct growers.

That it is possible to produce tobacco of the required standard has been amply demonstrated in districts where the soil and climate are suitable, and the objective of growers should not be increase of acreage under production so much as improvement in quality of leaf produced.

The Commonwealth Government in 1907 provided for the payment of a bounty of 2d. per lb. up to £4,000 per annum on Australian tobacco leaf, for the manufacture of cigars of a prescribed quality. Up to the present the quantity of high-grade leaf produced in New South Wales has been very small.

SUGAR-CANE.

Sugar-cane was cultivated in New South Wales as early as the year 1824, but it was not until 1865 that anything like systematic attention was given to this industry. In the latter year experiments were carried out on the Clarence, the Hastings, the Manning, and the Macleay Rivers, which on the whole proved successful, and were followed by more extensive planting. The Macleay was the principal seat of the industry during its earlier stages; but it proved to be unsuited to the growth of the cane, and the risk of failure from frosts compelled the planters to migrate farther north. Within a few years the richest portions of the lower valleys of the Clarence, the Richmond, the Tweed, and the Brunswick were occupied by planters. Mills were erected in the chief centres of the industry, and cane-growing and sugar-manufacturing became established industries in the north-eastern portion of the State, where the soil and climate are in most respects well adapted to successful cultivation of the sugar-cane. On account of the proximity of the district to Queensland, and the similarity to the conditions which rule the sugar production of the northern cane-fields, the producers of the raw material in New South Wales are enabled to benefit by any experimental work carried out in the adjoining State. Continual efforts are being made to improve the quality of the cane product, varieties and seedlings are carefully tested, soils are closely analysed, the effects of irrigation and fertilising are noted, and consequently the cane-yield has been greatly and correspondingly increased.

The yield of sugar from the cane crushed varies considerably, the variation approximating, between a maximum and a minimum year, to 1 ton of cane in the quantity required to produce 1 ton of sugar, measured by the saccharine density of the cane. As compared with Queensland, where the average yield of cane per acre for 1916 was 20.81 tons, the yield for this State, 27.49 tons, may be regarded as satisfactory, but as compared with the produce which could be gathered by the application of more scientific methods of culture, there is evidence that considerable improvement is possible.

The following table shows the progress of this industry since the season 1863-4, when only 2 acres were recorded as being under cultivation. As sugar-cane is not productive within the season of planting, the area under cultivation has been divided, as far as practicable, into productive and non-productive, the former representing the number of acres upon which cane was cut during the season, and the latter the area either newly planted, or during which it was not sufficiently matured for milling, and was on that account allowed to stand for another year. On the average the area cut for cane represented about one-half of the total area planted.

Season.	Area.			Production of Cane.	
	Cut for Crushing.	Not cut.	Total.*	Total.	Average per Acre.
	acres.	acres.	acres.	tons.	tons.
1863-4	.....	.....	2	.....	.....
1864-5	.....	.....	22	.....	.....
1865-6	.....	.....	141	.....	.....
1870-1	1,475	2,607	4,082	.....	.....
1875-6	3,654	2,800	6,454	.....	.....
1880-1	4,465	6,506	10,971	121,616	27·22
1885-6	9,583	6,835	16,418	239,347	24·98
1890-1	8,344	12,102	20,446	277,252	33·23
1895-6	14,398	18,529	32,927	207,771	14·43
1900-1	10,472	11,642	22,114	199,118	19·01
1905-6	10,313	11,492	21,805	201,998	19·59
1910-11	5,596	8,167	13,763	160,311	28·65
1911-12	5,244	8,663	13,907	147,799	28·18
1912-13	6,137	7,777	13,914	140,914	22·83
1913-14	6,198	7,034	13,232	185,970	30·00
1914-15	6,012	5,409	11,421	181,606	30·21
1915-16	6,030	5,228	11,258	157,748	26·16
1916-17	5,223	5,746	10,969	143,558	27·49

* Exclusive of areas cut for green food or plants since 1910.

† Advance figures—subject to revision.

From the small beginnings of 1863-4 there was a continual increase of land put under cane until the year 1884-5. During succeeding years there was, however, a retrograde tendency, and the area in 1888-9 was less by 2,236 acres than that cultivated in 1884-5. The low price of the product, and the disturbed state of the markets of the world during these years, forced the sugar manufacturers to reduce the amount offered for cane, and thus caused the abandonment for a time of the cultivation by small farmers, who found in the growth of maize less variable results of their labour.

In 1889-90 there was a revival, with further increases in successive years until 1895-6, when the largest area on record, consisting of 32,927 acres, was planted. In 1895-6 alterations were made in the Customs tariff with regard to sugar, and about the same time there were great developments in the dairy-farming industry on the Northern Rivers, and both these causes diverted attention from sugar-planting. After 1895-6 the area devoted to cane-growing steadily declined for five years, until in 1900-1 there were only 22,114 acres under cultivation. From 1900-1 it remained practically stationary for six years at a little over 20,000 acres; but a further diminution followed, and in 1916-17 there were only 10,969 acres under cultivation, an area smaller by 2 acres than that under sugar-cane in 1880-1.

In 1896-7 the highest production of 320,276 tons of cane was obtained; but the average production per acre was only 17.60 tons—with the exception of that of 1895-6 and 1884-5, the lowest on record. The cane disease, prevalent principally on the Clarence, caused the low averages during the period 1895-7, and in 1895-6 the crop was further damaged by frost. The comparatively low yields of 1899-1901 were due to unfavourable seasons. The area of cane cut during 1915-16 was 6,030 acres, with a total yield of 157,748 tons, or an average of 26.16 tons per acre.

Preliminary returns for the 1916-17 season show that 5,223 acres were cut for crushing, the production of cane being 143,558 tons. The average yield per acre was 27.49 tons, or about 26 cwt. per acre higher than in the previous season.

The county of Clarence is the principal centre of cultivation, and in 1915-16 it contained 4,589 acres devoted to the production of sugar. The yield obtained from 2,570 acres of productive cane amounted to 65,198 tons, showing an average of 25.37 tons per acre. In the county of Rous cane was grown on 4,085 acres, and the yield was 61,992 tons, or an average of 26.30 tons per acre, cut on an area of 2,357 acres. In the county of Richmond the area under sugar-cane was 2,584 acres, of which 1,103 acres were cut, giving a total yield of 30,558 tons of cane, or an average of 27.70 tons to the acre.

The majority of the farmers cultivate sugar-cane in conjunction with dairy-farming, and only a few estates are devoted entirely to its production. Cane was grown during 1915-16 on 694 holdings, 521 of which had areas ranging up to 25 acres, 150 ranged from 26 to 50 acres, 22 from 51 to 100 acres, and only 1 had an area in excess of 100 acres.

Sugar-cane is cut usually in the second year of its growth, the fields being replanted after they have given crops for three or four seasons; and as the cane has been planted at irregular intervals, the seasons of large production have sometimes been followed by small crops in the succeeding year. Sugar manufacturers invariably purchase the year's crop of cane as it stands, and cut it at their own cost. From plantations in full bearing the average weight of the cut cane varied from 25 to 32 tons, and the value received by the grower was, in 1915-16, about £1 1s. per ton of uncut cane. An additional 5s. per ton was paid for cutting, which in most cases was done by the growers. The field work on the sugar plantations of New South Wales has been performed generally by white labour, and in 1913 the number of farmers employing black labour represented only 1.5 per cent. of the total. Since that year figures have not been available.

GRAPE VINES.

In almost every part of the State, with the exception of the sub-tropical belt and the higher altitudes of the mountain ranges, grape-vines thrive well and bear large crops, equal in size, appearance, and flavour to the

viticultural products of Europe. The principal vineyards are situated in the valleys of the Murray and the Hunter Rivers, where capital has been generously expended to introduce skilled labour, and to provide manufacturing appliances.

The great irrigated areas in the Murrumbidgee Valley are now rapidly growing in the favour of vigneron, and they may within a few years become the most important wine-producing districts of the State. Several hundred acres have already been planted with vines, and the results of the culture have proved highly satisfactory.

Under irrigation the vine can be cultivated to produce from 600 to 1,000 gallons of wine per acre, and an area like that embraced by the Murrumbidgee scheme should, therefore, be capable of supplying a demand, already said by some authorities to exist, for a light wine of the "vin ordinaire" type affected by the inhabitants of Southern and Central Europe. Owing to the greater concentration of grape-sugar, the wines of this State are much heavier than the popular vintages of the Old World.

The vine-growing and wine-manufacturing industries are still, however, in their infancy, but with an increasing local demand, and with the establishment of a market in England, where the wines of New South Wales have gained high appreciation, the future of grape culture appears to be fairly assured. At present the production is, speaking comparatively, insignificant.

The following table shows, in quinquennial periods from 1860 to 1900, and thence for successive years to 1916, the total area under vines in this State, the area devoted to the wine-making industry only, the total production of wine in gallons, and the average number of gallons to the acre.

Season.	Total Area under Vines.	Area under Vines for Wine-making only.	Production of Wine.		Season.	Total Area under Vines.	Area under Vines for Wine-making only.	Production of Wine.	
			Total.	Average per Acre.				Total.	Average per Acre.
	acres.	acres.	galls.	galls.		acres.	acres.	galls.	galls.
1860-1	1,584	622	99,791	160	1904-5	8,840	5,298	928,160	175
1865-6	2,126	1,243	163,123	135	1905-6	8,754	5,279	831,700	157
1870-1	4,504	2,371	342,674	145	1906-7	8,521	4,951	1,140,000	230
1875-6	4,459	3,163	331,749	263	1907-8	8,483	4,644	778,500	168
1880-1	4,800	2,907	602,007	207	1908-9	8,251	4,472	736,262	165
1885-6	5,247	2,876	555,470	193	1909-10	8,330	4,561	808,870	177
1890-1	8,044	3,896	842,181	216	1910-11	8,321	4,354	805,600	185
1895-6	7,519	4,390	885,673	202	1911-12	8,231	4,260	850,210	200
1900-1	8,441	4,534	891,190	197	1912-13	8,163	4,403	719,100	163
1901-2	8,606	4,889	868,479	178	1913-14	8,153	4,498	561,100	125
1902-3	8,790	5,041	806,140	160	1914-15	7,985	4,113	549,140	134
1903-4	8,940	5,101	1,086,820	213	1915-16	7,883	3,501	571,000	163

The production of wine has fluctuated much during the last ten years, the total area planted being now 7,883 acres, of which 3,501 acres yielded

571,000 gallons of wine. The total number of vineyards in 1916 was 1,292, in 225 of which wine-grapes were grown.

The average area of each vineyard was nearly $5\frac{1}{2}$ acres, and the total planted with vines still in an unproductive stage was 1,666 acres. The average yield in 1915-16 was 163 gallons per acre, and during the last ten years 172 gallons. The wine produced in New South Wales during the year 1915-16 was valued at £46,390, and the brandy distilled by vignerons for fortifying purposes at £1,450.

During the 1914-15 season the grape-crop in the Riverina, more particularly in those counties bordering on the River Murray, including a fair proportion of territory in the Division of the South-Western Slope, practically failed on account of the dry weather. Large areas of diseased vines were rooted out, but they have since been replanted with other varieties on phylloxera-resistant stocks.

In 1914-15 the Murray River District, represented by the border counties of Hume and Goulburn, had respectively 1,140 and 399 acres under cultivation for the production of grapes, or a combined area of 1,539 acres, of which total 1,257 were allotted to wine-making, 54 to the product designed for table use, and 17 to the product intended for treatment as dried fruit, while 211 acres were planted with young vines not yet bearing. In 1915-16 the area in these two counties planted with vines has decreased, through a prolonged period of dry weather, to 1,207 acres, for though the area planted with grapes for table use, and for drying, together with that planted with young vines, had increased respectively by 9, by 12, and by 145 acres respectively, the area allotted to wine-making fruit decreased by 498 acres.

The area under vines has been increased considerably on the Murrumbidgee irrigation area, advancing from 60 acres in 1912-13 to 219 acres in 1913-14, to 450 acres in 1914-15, and to 564 acres in 1915-16.

The desire of the Government for the application of the most scientific methods to wine-making, for the general cultivation of the vine, and for the extirpation of the phylloxera disease, has led to the establishment of viticultural stations at Howlong, near Albury, at Narara, at Mirrool, and at the Wagga Wagga and Yanco experiment farms for the propagation of resistant stocks, and for the conduct of various researches in connection with wine-growing.

Phylloxera has not affected the Hunter Valley District, and the station at Narara was established to supply the demands of clean vineyards there and in other districts.

Arrangements are being made by the Department of Agriculture to conduct a systematic examination of the wines of the State in order to determine the nature of vintages from different varieties of grapes and from a number of districts, and also to compare them with those of other countries.

The culture of grapes is not restricted to the production of fruit for the purposes of wine manufacture, as a considerable area is devoted to their production for table use, particularly in the neighbourhood of Sydney, and at Ryde, Parramatta, and other parts of Central Cumberland, and in the Orange, Yanco, and Mirrool Districts. The extent of country devoted to this branch of the industry in 1915-16 included 2,238 acres, with a production of 2,940 tons of grapes, or an average of 1.31 tons of fruit per acre.

Although there is a large local demand, and a possibility of an export trade for raisin fruits, no extensive areas have as yet been planted. In 1915-16 there were 478 acres cultivated for drying purposes, and the yield

was 7,954 cwt., comprising 3,923 cwt. of sultanas, 1,616 cwt. of raisins, and 2,415 cwt. of currants. At the vineyards conducted in connection with the Wagga Wagga experiment farm and the Hawkesbury Agricultural College raisins and sultanas are dried every season and placed on the local market, where they are regarded as equal in every respect to the imported article.

The cultivation of vines is also conducted at the Yanco irrigation farm, which has been established for the education of settlers to be placed on the land within the operations of the Murrumbidgee irrigation scheme.

ORCHARDS.

The cultivation of fruit does not receive the attention its merits, as both the soil and the climate of large areas throughout the State are well adapted to fruit-growing. A larger area of land is, however, being brought each year under fruit culture, and orchardists can ascertain from the Department of Agriculture the varieties which are recommended for planting in specified districts, and the prospects of ultimate success are thus greatly enhanced. With large areas of suitable soil and with climatic conditions ranging from comparative cold on the highlands to semi-tropical heat on the North Coast, a large variety of fruits can be cultivated. In the vicinity of Sydney, oranges, peaches, plums, and passion-fruit are most generally planted. On the Tableland, apples, pears, apricots, and all the fruits from cool and temperate climates thrive well; in the west and in the south-west, figs, almonds, and raisin-grapes can be cultivated; and in the north coastal districts, bananas, and other tropical fruits grow excellently.

Inspectors have been appointed to the different fruit-growing districts, and they devote a considerable portion of time to advising growers in the methods of combating the various diseases that affect orchards, in the extirpation of pests, in the adaptation of varieties of fruit-trees to distinct classes of soil, in spraying and pruning trees, and in grading and packing fruit; in brief, they give their assistance to the grower in every detail of his calling. Moreover, experiments are being conducted for the treatment of fungus diseases and insect pests in the fruit-growing centres of the State, and according to advanced and modern scientific methods.

Citrus Orchards.

The cultivation of citrus fruits is specially distinctive of the districts adjacent to the metropolis. Orange groves were planted first near the town of Parramatta, and afterwards in the neighbouring districts of Ryde, Pennant Hills, Lane Cove, throughout Central Cumberland, in the valleys of the Hawkesbury and the Nepean Rivers, and on the slopes of the Kurrajong Mountains. Large areas destined to the cultivation of citrus fruits are being planted at Yanco and Mirrool, and with the results and experience of Pera Bore in support of the enterprise, good oranges and lemons are confidently expected as a contribution from the West, of production under irrigatory conditions.

In the collection of statistics of citrus and other fruit orchards during the season 1909-10 a new system was adopted by which the area under each kind of fruit trees, productive and non-productive, could be ascertained with accuracy. Under the superseded method there is little doubt that in mixed orchards a section of the area devoted to citrons was included with that bearing other fruits, and a proportion of unproductive area thus returned as productive.

Statistics relating to citrus orchards since the season 1895-6 are shown in the subjoined statement.

Season.	Area under Cultivation.			Production.	
	Productive.	Not bearing.	Total.	Total.	Average per Acre.
	acres.	acres.	acres.	bushels.	bushels.
1895-6	8,759	3,197	11,956	595,494	68
1900-1	11,013	3,952	14,965	648,628	59
1901-2	11,670	4,091	15,761	725,455	62
1902-3	12,550	3,657	16,207	509,239	41
1903-4	13,418	3,310	16,728	784,154	58
1904-5	14,486	2,918	17,404	791,838	55
1905-6	15,054	2,795	17,849	886,493	59
1906-7	15,173	2,582	17,755	783,749	52
1907-8	16,430	2,087	18,517	1,295,721	79
1908-9	16,570	2,040	18,610	784,758	47
1909-10	17,214	2,644	19,858	1,250,107	73
1910-11	17,465	2,643	20,108	1,478,306	85
1911-12	17,271	3,152	20,423	1,682,310	97
1912-13	17,213	3,360	20,573	1,534,000	89
1913-14	16,643	3,800	20,443	1,153,980	69
1914-15	16,675	5,237	21,912	1,445,624	87
1915-16	17,542	5,717	23,259	1,360,898	78

In 1890-1 the area under citrus fruit was 11,288 acres; in 1915-16 this had increased to 3,259 acres, of which 17,542 were productive, and the latest production was equal to 78 bushels per acre. The number of orchards in which citrus fruit was cultivated during the year 1915-16 was 5,787, and of these the average area was 4 acres.

The citrus production of 1915-16 represented 801,144 bushels of oranges, 190,548 bushels of lemons, 363,913 bushels of mandarins, and 5,293 bushels of other citrus fruits, namely, pomeloes (or citron apples), shaddocks and limes. The trees of bearing age included 930,258 orange-trees, 226,625 lime-trees, 422,285 mandarin-trees, and 2,234 other citrus-trees; whilst the young trees which had not yet reached the age of bearing included 352,904 orange-trees, 66,386 lemon-trees, 85,911 mandarin-trees, and 2,234 other citrus-trees.

The production of oranges has attained such proportions that the growers are obliged to seek oversea markets, as the supply, both in New South Wales and in the adjacent States, exceeds in some seasons the local demand. The principal market outside Australia is provided by New Zealand. Efforts are being made to establish a trade with the United Kingdom and with America, and in view of the success that has been attained in other countries in carrying citrus fruits long distances by sea, there is ample assurance that a profitable export trade in Australian-grown products will be established.

Other Orchards.

The principal crops of fruit other than citrus products, which are more intensively cultivated in the neighbourhood of Sydney, range from natives of comparatively cold to temperate and semi-tropical climes, but their successful culture is determined by orographical altitude as well as by parallels of latitude. Apples showed the greatest measure of production, the output for the year 1915-16 reaching 499,087 bushels from 568,882 trees of bearing age. Peaches and nectarines came next, with an output of 428,669 bushels from 505,044 trees; followed by pears, with 120,364 bushels from 141,047 trees; by cherries, with 116,444 boxes (each of 24 lb.), from 114,263 trees; by plums, with 115,482 bushels from 110,591 trees; by apricots, with

75,518 bushels from 83,592 trees; by passion-fruit, with 59,448 bushels from 128,792 vines; by quinces, with 35,510 bushels from 31,684 trees; and by loquats, with 10,338 bushels from 6,563 trees, besides some smaller yields from minor fruit crops.

The following table shows the area under orchards and fruit-gardens, exclusive of orangeries, together with the total value of each season's yield, since 1890-1.

Season.	Area of Productive Fruit-gardens and Orchards.	Area of Fruit-Gardens and Orchards not Bearing.	Total Area Cultivated for Fruit-gardens and Orchards.	Total Value of the Production of Fruit-gardens and Orchards.	Approximate Average Value per Acre.
	acres.	acres.	acres.	£	£ s. d.
1890-1	16,081	6,274	22,355	213,934	13 6 0
1895-6	20,635	8,145	28,780	130,735	6 7 0
1900-1	25,766	5,503	31,269	270,031	10 10 0
1905-6	25,189	3,577	28,766	189,195	7 10 0
1910-11	20,498	6,748	27,246	271,939	13 5 4
1911-12	19,602	8,166	27,768	373,803	19 1 5
1912-13	19,375	9,109	28,484	305,660	15 15 6
1913-14	19,248	11,238	30,486	244,950	12 14 6
1914-15	18,500	12,567	31,067	233,130	12 12 0
1915-16	19,006	13,173	32,179	243,210	12 16 0

Owing to the subdivision of orchards for residential and other purposes the area under fruit declined from 32,346 acres in 1901-2 to 25,859 acres in 1909-10; since that season it has increased, and in 1915-16 was greater than in any season since 1903-4, although with each successive year numerous sections are segregated as building sites.

At the Murrumbidgee irrigation settlement fruit-trees are being planted very extensively, especially peaches, apricots, and oranges. Whilst the area of citrus-trees has increased from 60 acres in 1912-13 to 702 acres in 1915-16, the area under other fruit has advanced during the same period from 152 acres to 1,949 acres, the great majority of the trees still being in the unproductive stage.

About two-fifths of the area devoted to fruit culture is in the county of Cumberland, the actual acreage in 1915-16 being citrus, 10,764 acres; fruits other than citrus, 7,969 acres.

With the exception of oranges, the fruit-production of New South Wales is far below average demands. The State is, therefore, obliged to import large quantities, the greater portion of which could be successfully grown within its own boundaries. As a matter of fact, vast quantities of fruit produced in New South Wales never reach the consumer. This is due to faults of marketing, and to lack of co-operation among the growers. Good seasons are rewarded by a glut of fruit, for which, apparently, there is no system of efficient handling, and while consumers are anxious to secure supplies of sound fruit at reasonable prices, much of the produce is allowed to spoil, and has ultimately to be discharged by the cartload at the city tip.

After citrus fruits, apple and peach trees are the most numerous, and peaches are largely preserved by canning. Efforts have been made to establish an export trade, principally in apples, but during recent seasons the prices in the local markets have been so satisfactory that only small quantities have been exported.

The extent of cultivation of each kind of fruit is shown in the following table.

Fruit.	1914-15.			1915-16.		
	Number of Trees not yet Bearing.	Trees of Bearing Age.		Number of Trees not yet Bearing.	Trees of Bearing Age.	
		Number.	Yield.		Number.	Yield.
Oranges	312,643	851,564	bushels. 848,670	352,904	930,258	bushels. 801,144
Lemons	50,628	247,790	209,013	66,386	226,625	190,548
Mandarins	94,647	397,033	386,096	85,911	422,285	363,913
Other citrus	798	2,123	1,845	2,234	4,732	5,293
Apples	411,743	534,278	519,003	400,040	568,882	499,087
Peaches and Nectarines ...	311,628	488,246	379,673	319,972	505,044	428,669
Pears	122,032	131,124	125,778	133,723	141,047	120,364
Cherries	74,994	109,126	59,172	51,782	114,263	58,222
Apricots	53,222	85,570	61,137	56,973	83,952	75,518
Plums and Prunes	75,151	122,702	109,070	96,598	118,444	120,804
Quinces	9,119	34,179	33,738	11,005	31,694	35,510
Persimmons	1,637	5,690	6,633	2,231	9,151	8,137
Passion Fruit	*30,808	*120,721	52,295	*34,493	*128,792	59,448
All other	20,478	18,804	16,753	17,521	18,181	23,222

* Vines.

The total yield of fruit and nuts amounted in 1915-16 to 2,789,879 bushels, the production of 3,174,558 trees of bearing age (passion-fruit vines are not included in the total of fruit and nut bearing trees); while the total number of young trees not yet bearing (exclusive of passion-fruit vines) was 1,597,280.

For 1915-16 the number of passion-fruit vines was stated as 163,285, of which 128,792 were bearing fruit, the vines being frequently planted among the trees of other fruits, especially in young citrus orchards. The passion-vine is easily grown and cheaply maintained, and on account of its early maturity forms a valuable means of profit to the grower until the fruit-bearing trees become productive.

The cultivation of the passion-fruit could be considerably extended, as the present supply is not sufficient to meet the local demand, and there is little doubt that an appreciable demand for the fruit could be created in the United Kingdom and in America by systematic advertisement. A trial shipment was sent to London, but it met with only partial success, as buyers, not knowing its characteristic qualities, imagined the fruit to be worthless on account of its shrivelled appearance.

"All other" included a variety of berry, nut, figs, stone, pulp, and jelly fruits, of which the more important were loquats, almonds, figs, walnuts and guavas; but the remainder listed small quantities of mulberries, mangoes, pomegranates, paw-paws, olives, custard apples, bush nuts, chest-nuts, and medlars. Of the foregoing, loquats showed the greatest measure of production, the output for the year 1915-16 being 10,338 bushels from 6,563 trees of bearing age. Almonds came next, with an output of 5,702 bushels from 5,592 trees. The production of figs was 5,648 bushels from 4,220 trees; of walnuts, 667 bushels from 847 trees; and of guavas, 506

bushels from 667 trees. The following figures represent the number of young trees not then of bearing age, namely, loquats 1,083, almonds 6,642, figs 5,499, walnuts 3,495, and guavas 281. Statistics relating to the total production of gooseberries, loganberries and currants are not available. Besides these there were crops of 1,006 bushels of strawberries from 6,500 plants, of 81,726 cases of bananas from 235,512 clumps, and of 3,992 dozen of pineapples from 48,972 plants.

MARKET-GARDENS.

In 1915-16 there were in the State 3,301 holdings, comprising 10,967 acres, cultivated as market-gardens, the average size of each being 3.3 acres. The value of the production for the year was £400,860. Over one-third of the total area laid down for market-gardens is in the county of Cumberland, and until recent years the industry was almost entirely in the hands of the Chinese, but latterly it has received much attention from the farmers of the metropolitan districts.

The subjoined statement gives the number and area of market-gardens, and the value of the produce for each year of the decennium ending with 1915-16.

Season.	Market-gardens.	Area.	Value of Production.	
			Total.	Average per Acre.
	No.	acres.	£	£ s. d.
1906-7	3,437	9,550	258,000	27 0 4
1907-8	3,324	10,052	262,786	26 2 10
1908-9	3,462	10,331	298,740	28 18 4
1909-10	3,808	10,254	311,580	30 7 9
1910-11	3,598	9,813	333,820	34 0 1
1911-12	3,368	9,498	357,230	37 12 3
1912-13	3,581	9,847	369,480	37 10 0
1913-14	3,373	10,607	401,060	37 16 2
1914-15	2,972	10,502	405,280	38 11 10
1915-16	3,301	10,967	400,860	36 11 0

One branch of gardening—tomato culture—has not received sufficient attention. As this cultivation entails light labour, and is particularly remunerative, the vegetable could be grown by persons unaccustomed to heavier labour on farms, and it is surprising that the industry should have been so long neglected. In 1915-16 there were 502 acres, outside market-gardens, under cultivation for tomatoes, which yielded 92,705 half-cases, or 185 half-cases per acre. Settlers on irrigation areas cultivate tomatoes as a stock product whilst their orchards are maturing. During the year 1915-16 approximately 100 tons of tomatoes were pulped at the canning factory of Leeton.

MINOR CROPS.

In addition to the crops already specified, there are small areas under various other products, such as pulse and cucurbit crops.

Pulse.—During the season 1915-16 there were 318 acres under crop for peas and beans, which gave a total yield of 8,914 bushels, being 28 bushels per acre. The area under beans comprised only 13 acres, with a yield of 960 bushels, or nearly 74 bushels to the acre.

These peas and beans were grown mainly as hard fodder for horses and pigs, and must not be confounded with the legumes cultivated in the kitchen and market gardens for table use as green vegetables.

Cucurbit Crops.—The area devoted to pumpkins and melons during the season 1915-16 was 3,907 acres, and the yield 12,972 tons, being 3.32 tons per acre. The principal places of cultivation are the maize districts and the metropolitan county.

Pumpkins are grown for table use as vegetables, and are also used extensively as fodder for cattle and pigs. The number of acres under gourd-vines mentioned above is somewhat below the true figures, as crops of pumpkins and melons are occasionally raised in market-gardens also, and statistics respecting the production are not available.

Other branches of agriculture have received but small attention, although, as the rural population increases, their importance will no doubt gain recognition. Little has been attempted in the cultivation of any of the following, although experiment has proved that they can all be successfully grown in the State:—Olives, the castor-oil plant, flax, ramie fibre, hops, silk, coffee, and cotton. The variety of soil and climate is so diverse that almost any kind of vegetable crop can be cultivated, the only things lacking being knowledge and initiative.

The castor-oil plant grows luxuriantly in the humid coastal districts, and hops have been cultivated to a slight extent in the neighbourhood of Orange, while other suitable districts are Armidale, Goulburn and Cooma.

IMPORT AND EXPORT OF FRUIT, VEGETABLES, AND PLANTS.

The following quantities of fruit, etc., were received into New South Wales from the other States of the Commonwealth during the year ended June, 1916:—

1,727,198 cases and half-cases of fruit, tomatoes, and cucumbers.

147,422 bunches of bananas.

1,230 crates of cauliflowers and cabbages.

764,472 bags of vegetables.

896 packages of plants and nuts.

Of the above, 12,302 cases of fruit and 5,248 bags of potatoes were infected with disease.

Under the Quarantine Act, 493,856 bunches of bananas, 48,468 cases of pineapples and bananas, 157,716 centals of fruit, 3,529,727 centals of cereals, seed, pulse, etc., 385,914 centals of vegetables, bulbs, etc., 27,208 centals of nuts, and 142,928 plants were examined. Fruit and grain to the extent of 152,908 centals were condemned, and also 28,164 plants.

Under the Commerce Act, 90,275 packages of canned and fresh fruit, 15,145 bags of potatoes, 5,145 bags of maize and seed, and 527 packages of plants were passed for export.

MACHINERY AND LABOUR.

The application of machinery to the cultivation of the soil has materially reduced the number of processes and the amount of labour formerly necessary to the production of the various crops, and has thereby rendered the pursuit of agriculture less costly than in the past. For harvesting grain-crops the reaper and binder, the stripper, and the harvester are used, and there is considerable difference of opinion regarding the relative efficiency of

these different implements. The reaper and binder is employed almost exclusively in moist districts, but over the greater portion of the wheat areas conditions are favourable to the use of the harvester. A modern type of harvester, particularly adapted to Australian conditions, produced and developed locally, has largely contributed to the expansion of wheat cultivation.

The estimated value of the agricultural machinery in use during the 1915-16 season was £5,362,027, or an average of 18s. 6d. per acre cultivated.

The subjoined statement shows the area farmed, the value of the machinery used, and the value of the machinery used per acre, in Divisions of the State.

Division.	Area Farmed.	Value of Machinery.	Value per Acre.
	acres.	£	£ s. d.
Coastal Belt	278,603	592,241	2 2 6
Tableland	530,422	704,824	1 6 7
Western Declivity	2,571,974	2,199,276	0 17 1
Central Plains and Riverina ...	2,403,514	1,813,946	0 15 1
Western Plains	10,322	51,740	5 0 3
Total	5,794,835	5,362,027	0 18 6

A comparison of the value of farming implements and machinery in use during each year of the decennium ended in 1915-16 in each of the rural industries is shown in the following table.

Season.	Farming.	Dairying.	Pastoral.*	Total Value.
	£	£	£	£
1906-7	2,645,980	417,006	1,082,043	4,145,029
1907-8	2,599,156	443,197	1,110,953	4,153,306
1908-9	2,851,974	458,720	1,256,857	4,567,551
1909-10	3,042,364	510,852	1,332,427	4,885,643
1910-11	3,414,621	534,745	1,483,081	5,432,447
1911-12	4,859,037	519,467	1,128,666	6,507,170
1912-13	4,633,809	575,637	1,514,636	6,724,082
1913-14	5,029,938	617,109	1,744,891	7,391,938
1914-15	5,159,959	589,593	1,864,034	7,613,586
1915-16	5,362,027	570,955	2,015,048	7,948,030

* The figures for years other than 1911 include, in many cases, farming implements used on pastoral holdings.

The following statement gives a comparative view of the machinery used and of the labour employed in agricultural pursuits during the last ten years.

Season.	Area farmed.	Value of Machinery.	Persons Employed.			Machinery, per acre.	Persons employed per acre.
			Males.	Females.	Total.		
	acres.	£				£	
1906-7	2,824,211	2,645,980	63,448	5,715	69,163	0·94	0·021
1907-8	2,570,137	2,599,156	57,327	5,385	62,712	1·01	0·024
1908-9	2,713,971	2,851,974	55,324	5,409	60,733	1·05	0·022
1909-10	3,174,864	3,042,364	59,541	4,770	64,311	0·96	0·020
1910-11	3,381,921	3,414,621	59,091	5,228	64,319	1·01	0·019
1911-12	3,629,170	4,859,037	56,476	3,496	59,972	1·34	0·017
1912-13	3,737,269	4,633,809	57,209	2,848	60,057	1·24	0·016
1913-14	4,568,841	5,029,938	59,337	2,699	62,036	1·10	0·014
1914-15	4,808,627	5,159,959	57,602	3,356	60,958	1·07	0·012
1915-16	5,794,835	5,362,027	56,474	3,759	60,233	0·93	0·010

In stating the number of persons employed in agricultural pursuits it must be remarked that these figures are obtained from returns supplied by the farmers; but in cases where agriculture is carried on conjointly with other rural industries it is difficult to differentiate, and persons may be returned as engaged in agriculture in one year, and in other rural occupations in another year. Nevertheless, the decline in the number of persons employed per acre has been continuous since the year 1907-8, and the application of machinery to the pursuits of agriculture has been progressively increasing during the same period. In 1907-8 the total value of machinery employed amounted to £2,599,156, and in 1915-16 to £5,362,027, or an increase of over 106 per cent.; the number of persons employed in the same years was respectively 62,712 and 60,233, or a decrease of nearly 4 per cent.; but in the meanwhile the area farmed expanded from 2,570,137 acres to 5,794,835 acres, or over 125 per cent., and shows therefore the increasingly large part taken by machinery in its application to agriculture.

The decrease in the number of workers during the period of the War amounted to 1,803 on the figures of 1913-14, or to 1,078 in 1914-15, and to 725 in 1915-16; but whereas there was a decline in the number of males employed during the same period of 2,863, or of 1,735 in 1914-15, and of 1,128 in 1915-16, there was an increase in the number of females of 1,060, or of 657 in 1914-15, and of 403 in 1915-16. The decline in the number of males engaged in agriculture may not have been due entirely to enlistment for military service abroad, because a period of drought synchronised with the first two years of the War; but military service had undoubtedly a great influence in accentuating the decline of adult male employment in every branch of industry.

Prior to the War the majority of the females were engaged only partly in agricultural work, portion of their time being occupied with the discharge of domestic duties. At the census of 1911, there were 79,235 persons—77,599 males and 1,636 females—who were returned as engaged in agricultural pursuits.

The labour employed in all rural industries is discussed in the chapters on Employment and Industrial Arbitration and Population.

FERTILISERS.

The most important method of maintaining the productive power of the soil, which is a fundamental principle of a permanent system of agriculture, is its treatment by fertilisers in order to supplement its supply of plant-food, and to improve its physical and biological condition.

As soils show considerable variations in their composition, the most important factor in the use of fertilisers is the determination of the requirements of each soil intended for cultivation. This may be ascertained satisfactorily only by systematic local experiment.

In New South Wales superphosphate is the only artificial fertiliser used in any considerable quantity, the soils in the wheat areas being generally deficient in phosphoric acid. Tests of manure conducted on the farmers' experiment plots indicate that the benefits derived from the application of superphosphates to wheat-lands, as a general rule, are most marked in the southern portion of the wheat-belt, viz., the South-Western Slope and the Riverina. The beneficial results gradually diminish throughout the western districts which form the central portion of the wheat-belt, and in the north-western districts no advantage is gained by the use of this fertiliser. The results may be affected, however, by the fact that fallowing is more common in the south than in the west, and much more than in the north.

The subjoined return shows the area of land and the quantity of manure used during the year 1915.

Division.	Total Area Manured.	Quantities of Manure used	
		Natural (Stable-yard, etc.).	Artificial (Superphosphates, Bone-dust, etc.).
Coastal Belt—	acres.	loads.	cwt.
North Coast	266	755	368
Hunter and Manning	2,725	12,348	7,646
County of Cumberland	19,075	125,021	84,674
South Coast	8,335	15,005	15,811
Total	30,401	153,129	108,499
Tableland—			
Northern	546	650	504
Central	96,642	8,628	52,629
Southern	25,176	4,111	14,341
Total	122,364	13,389	67,474
Western Declivity—			
North Western Slope	786	220	374
Central „ „	143,038	458	56,197
South „ „	897,776	2,299	365,826
Total	1,041,600	2,977	422,397
Central Plains and Riverina—			
North Central Plain ... ..	.....	.....	.....
Central Plain	131,328	800	38,926
Riverina	1,427,346	4,306	494,940
Total	1,558,674	5,106	533,866
Western Plains—			
East of Darling	328	1,889	205
West of Darling	64	1,298	5
Total	392	3,187	210
Total, New South Wales	2,753,431	177,788	1,132,446

The small proportion of the land to which manures have been applied in relation to the total area cultivated shows that the farming community does not fully appreciate the necessity and the practical value of fertilisers as a factor in the enrichment of poor soils, or as a means of restoring fertility to areas depleted by successive croppings. The proportion of manured land in relation to the total cultivated in 1915-16 was only 47·5 per cent.; but, as shown in the following table, a steady increase in the use of fertilisers has taken place since 1907, when the proportion was only 16·7 per cent.; though, considerable as the increase of manured land in proportion to the total cultivated area may appear, the figures fall far short in the interpretation of the facts of the case. In 1915-16 the total number of cultivated holdings was recorded as 50,632, but the number of crops grown on manured soils was only 8,754, or about 17 per cent.

The subjoined table exhibits the total area cultivated, the total area manured, and the nature of the manures employed, for the successive years from 1907-8 to 1915-16, both inclusive.

Season.	Total Area Cultivated.	Total Area Manured.	Manures Used—		Area Manured per cent. of Total Cultivated.
			Natural.	Artificial.	
	acres.	acres.	loads.	cwt.	
1907-8	2,570,137	423,678	144,021	276,120	16·5
1908-9	2,713,971	509,262	216,078	310,899	18·8
1909-10	3,174,864	826,197	189,003	433,187	26·0
1910-11	3,381,921	1,030,536	186,204	500,342	30·5
1911-12	3,629,170	1,407,853	178,689	676,409	38·8
1912-13	3,737,269	1,643,788	170,312	779,123	44·0
1913-14	4,568,841	2,226,742	166,753	1,010,596	48·7
1914-15	4,808,627	2,331,239	175,088	1,104,174	48·5
1915-16	5,794,835	2,753,431	177,788	1,132,446	47·5

The area on which natural manure only is used is comparatively small, comprising in 1915-16 but 7,707 acres, the quantity applied amounting to 75,745 loads. In conjunction with 72,297 cwt. of artificial fertilisers, 102,043 loads of natural manure were used on 19,370 acres, and the balance of the area manured—2,726,354 acres—was treated exclusively with 1,060,149 cwt. of artificial fertilisers.

The sale of artificial manures is regulated by the Fertilisers Act of 1904, under the provisions of which measure the vendor is required to furnish to the purchaser a statement as to their nature and chemical composition.

HAWKESBURY AGRICULTURAL COLLEGE.

The Hawkesbury Agricultural College provides accommodation for resident students, and imparts theoretical and practical instruction in a three-years' course, which embraces every department of agriculture. Instruction is given also in dairying, pig-raising, horse, sheep, and poultry breeding, and experimental research work is conducted in connection with cereal and other crops, in cultivation with fertilisers, and in soil culture, etc. All subsidiary branches of farm labour are taught, including blacksmithing, carpentry, sheep-killing, bee-keeping, and other occupations incidental to

the pursuit of agriculture. An area of 116 acres has been leased on the banks of the Hawkesbury River, on which a complete system of irrigation is being installed. The education and maintenance fee is £25 per annum, payable half-yearly in advance, and it includes the tuition, board and lodging of the student, but not the purchase of text-books and apparatus, or the cost of laundry work, etc. Special courses of instruction are also provided, notably at the winter and summer schools for farmers, poultry-keepers, and apiarists of both sexes. In June, 1916, there were 129 regular students in residence, and 949 acres out of the total of 3,430 acres attached to the College were under cultivation.

Dairy cattle of the Jersey and Red Poll breeds and Romney Marsh sheep are bred, also stud pigs of various strains, which are distributed to farmers throughout the Commonwealth and New Zealand. In the poultry section the egg-laying competitions attract a large number of competitors.

EXPERIMENT FARMS.

Experiment farms have been established in various districts of the State, with varying curricula adjusted to the particular climatic conditions characteristic of the different regions. At the Wagga Wagga farm the specialties are seed wheats, fruits, dairy cattle, swine (Berkshire), sheep, and poultry. The area under cultivation is 1,007 acres out of 3,406 acres. The course is for two years, a fee of £15 being charged for the first year, and £10 for the second. During 1916 there were in attendance 35 students, but the year closed with only 18, because a number enlisted for military service before the termination of their farm courses.

At Bathurst, particular attention has been devoted to the orchard, and to mixed farming and irrigation. A system of soil culture has been adopted by which a fodder crop rotates with a cereal crop, and a short summer fallow is allowed before sowing the cereal. Experiments with the cross-breeding of sheep are conducted, and a dairy herd of Kerry cattle is maintained. Of the total area of 752 acres, 515 are cleared and under crop. The fees are similar to those charged at Wagga Wagga, and there were 30 students in attendance during 1916, though accommodation is available for 60.

The Wollongbar farm, with an area of 264 acres, situated about 7 miles from Lismore, is utilised as a stud dairy establishment, its chief purpose being to impart instruction in dairying in all its branches, and in the mixed farming suitable to the district. A herd of 150 head of pure-bred Guernsey cattle, one of the largest stud herds of this variety in the world, is kept; and experiments are conducted in the cultivation of maize, lucerne, and other fodder crops, in the conservation of fodders, and with the growing of sub-tropical fruits, such as bananas, pineapples, passion-fruit, etc. The average annual rainfall at the Wollongbar farm is about 60 inches. The establishment is provided with accommodation for twenty apprentices. The branch farm of 470 acres is situated at Duck Creek, and is devoted chiefly to the cultivation of sugar-cane, and to experiments with it, and with maize and grasses.

At the Grafton experiment farm, which has an area of 1,075 acres, accommodation has been provided with the view of training apprentices in the mixed farming suited to sub-tropical districts, special attention being given to the improvement of maize by selection and cross-fertilisation, and to experiments regarding methods of cultivation and the adoption of commercial fertilising. Pigs, poultry and Ayrshire dairy cattle are bred, and potatoes and fodder crops are grown.

High-class stock is bred at the Berry experiment farm of 403 acres, situated 84 miles south from Sydney in the centre of the South Coast dairying district. The greater portion of the land consists of river-flats, the soil of which comprises rich loam and heavy clay. The farm is devoted mainly to the breeding of Shorthorn and Holstein cattle, the herds comprising respectively 140 and 56 head. A rigid system of culling is enforced, any animals incapable of attaining a certain standard of butter-fat being withdrawn. As the experience of dairy-farmers on the South Coast District has emphasised the need of conserving fodder, in order to meet periods of dry weather, three 100-ton silos have been constructed, and two hay-sheds, capable of housing 150 tons, have been erected. Experiments in the growing of maize, millet, sorghum, grasses, wheat and other cereals for fodder, are also conducted.

The Glen Innes farm, which has an area of 1,073 acres, is devoted to instruction in the mixed farming and fruit-growing suited to the northern tablelands. The stock includes pure-bred Lincoln sheep, Ayrshire cattle, and Berkshire pigs.

The Cowra farm, comprising approximately 1,010 acres, specialises in the production of seed-wheat, with subsidiary undertakings, such as cross-breeding experiments with sheep. The live-stock kept there include a herd of Jersey dairy cattle, a flock of Border Leicester sheep, and a herd of Berkshire pigs. Experiments are made also in miscellaneous cropping, and with a small orchard of varied fruits. An apprentice training-school, with accommodation for twenty-two students, is available for young men. The fee for the first six months is £5, and, subject to satisfactory work and conduct, no charge is made for the second six months. The Cowra farm is the principal experimental wheat-breeding station in the State.

At Pera Bore farm, which has an area of 67 acres, experiments have been made with artesian-bore water applied to agriculture, and with methods of neutralising its chemical constituents. Citrus fruits are cultivated, and a small flock of merino sheep is maintained, an area of 600 acres being rented for grazing purposes.

The Yanco experiment farm was established in 1908 in connection with the Murrumbidgee irrigation scheme, for the purpose of testing the suitability of soil and climate to the various crops to be grown under irrigation. The area of the farm is 2,045 acres, of which 653 acres are irrigable, including 65 acres of orchard and a mother-stock vineyard. A large portion of the farm is devoted to raising crops for the breeding stock and for the working horses. Ostrich-farming and mule-breeding are important features of the work at this farm, and a number of imported ostriches and donkeys are maintained there. The dairy cattle are of the pure Jersey breed, and the pigs are Berkshire.

In March, 1911, an experiment farm, with an area of 1,945 acres, was established at Coonamble in connection with dry-farming. Wheat cultivation and sheep-farming are there combined, and results indicate that profitable crops can be obtained on the black-soil plains by early sowing of quick-maturing varieties on well-fallowed land. An artesian bore has been sunk, and experiments in connection with the growth of crops by means of irrigation with bore-water are being carried out.

The Trangie experiment farm, with an area of 9,736 acres, was established in 1914; part of the area, which has a frontage to the Main Western Railway, will be devoted to wheat experiments on a large scale, and the remainder will be used for the purpose of a stud-merino farm.

DEMONSTRATION FARMS AND ORCHARD.

Demonstration farms have been established in various parts of the State, with the object of exhibiting the commercial results of the scientific principles which have been proved at the experiment farms. Demonstration farms are in operation at Nyngan, Temora, Condobolin, and Forest Vale, as well as a demonstration orchard at Dural.

At the Nyngan demonstration farm, established in 1909, part of the area is used for experiments relating to problems of dry-farming, which had been conducted previously at Coolabah. Investigations are carried on also in connection with merino sheep, with the object of originating a strain specially suitable for farmers and small landholders in the dry western areas. Six Swiss milch goats imported in 1914 are stationed at the Nyngan farm, the area of which is 6,427 acres. The operations at Coolabah were abandoned on account of its distance from any railway.

The Temora demonstration farm, established in May, 1912, is situated in the Riverina wheat belt, on a branch of the Main Southern Railway, and has an area of 1,606 acres. The conditions are specially suitable for the production of seed-wheat, and an area of about 60 acres has been selected for the purpose of experiment.

The Condobolin demonstration farm has an area of 1,348 acres, and is situated on a branch of the Main Western Railway. It was established for the purpose of demonstrating modern methods of dry-farming and the use of suitable varieties of wheat, the soil being typical of a large portion of the western districts of the State. Operations were commenced in September, 1912, and the results achieved are so far encouraging.

The Forest Vale demonstration farm, which has an area of 1,400 acres, was established in connection with the Government share-farming area at Forest Vale, near Condobolin. Suitable methods of cultivation, &c., are there demonstrated for the benefit of the tenants on the share-farms. This scheme was the outcome of a decision of the Government to undertake share-farming on a large scale, in order to afford share-farmers better terms than had hitherto been obtained on privately-owned lands. To this end operations were begun on an area of about 20,000 acres on the Ungarie-Lake Cudgellico Railway line, in process of construction. After deducting 1,400 acres for the demonstration farm, the remainder of the block was divided into twenty-one farms of roughly 800 acres each. It was proposed, when the scheme was initiated, that 500 acres of each block should be devoted to purposes of cultivation (half to be fallowed each year, and half to be put under crop), and the remaining 300 acres to grazing, assistance being provided by the Government for the purchase of sheep by the farmers. The Government was likewise to provide all the seed-wheat and the manure, and to take one-third of the crop, providing bags therefor and paying cartage thereon. A saw-mill was erected for cutting the timber required for houses, sheds, a recreation hall, etc. A store was opened by the Department for the sale of necessaries to farmers, clearing gangs, workmen, etc., the intention being eventually to hand this over to the settlers to be run on co-operative lines. At the conclusion of the financial year the development of the property for the purposes in view was well advanced.

With a view to solving some of the many problems which confront the fruitgrower, the Dural demonstration orchard was established for conducting experiments in fruit-growing, in the manuring of different varieties of fruit-trees, in combating the attacks of pests and diseases, and for the

education generally of fruit-growers in the county of Cumberland. Experiments were also conducted to ascertain if it were profitable to re-plant worn-out citrus orchards with citrus fruits. Short courses of orchard and garden work are provided.

VITICULTURAL NURSERIES.

Operations at the Hunter Valley viticultural nursery, Raymond Terrace, were transferred during 1913 to an area of 100 acres at Narara, from which it is distant only one mile. This new establishment is situated on the Main Northern Railway line, 52 miles north from Sydney and 3 miles from the station at Gosford. Instruction and advice are imparted with respect to bench-grafting, bud-grafting, field-grafting, and to all matters involved in the reconstruction of vineyards. The main purpose of the nursery, however, is the propagation of phylloxera-resistant rootlings, and bench and bud grafted vines, for distribution to vine-growers living in infected areas, to enable them to replant the vineyards destroyed by phylloxera. Twelve youths from the Boys' Home at Penang Mountain are in residence at the Narara nursery, where they receive the expert training which enables them to acquire a proficient and practical knowledge of viticulture.

At the Howlong viticultural nursery there is a mother-stock vineyard to supply the necessary material for the propagation of vines at the Narara nursery, and there are experimental blocks for the culture of wine and table grapes. The area of the nursery is 224 acres, of which 146 are grass and timber lands, 36 are devoted to the growing of phylloxera-resistant vines, from which to obtain the necessary stock for the propagation of vines for distribution among vigneron, 6 are used for growing wine and table grapes for experimental purposes, 34 are cultivated for hay crops, and the balance of 2 acres are occupied by buildings.

In order to increase the output of grape-vines grafted on phylloxera-resistant stocks, it was found necessary to establish a third nursery, and for such a purpose a block of 55 acres was acquired at Mirrool, as experience had shown the suitability of the Murrumbidgee irrigation areas for this description of viticulture. The work of developing the nursery at Mirrool has been energetically advanced, and arrangements have been made for the erection of the necessary grafting-sheds and other buildings by the Water Conservation and Irrigation Commission.

EMU PLAINS IRRIGATION FARM.

The Emu Plains irrigation farm was acquired in 1914, and is utilised principally for growing vegetables to supply the needs of the various Government institutions, and for sale in the open market. The area of the farm is 107 acres, and the greater portion is watered by sprinklers, by flooding, or by furrowing systems. An overhead system of irrigation has been installed to test its value for crops and vegetables. The greater part of the labour is supplied by prisoners, released on license from the State gaols, who thus become the subjects of an interesting experiment in social reform.

NORTH BANGAROO STUD HORSE FARM.

This is a property of 5,123 acres, situated at North Bangaroo, near Canowindra, and occupied for the breeding of high-class Clydesdale horses for the various experiment farms, etc., and for sale to farmers. Three stallions from the best established Scottish studs have been imported, together with a number of high-class brood mares from Scotland and from New Zealand, while others have been obtained from interstate and local stock.

GOVERNMENT AGRICULTURAL TRAINING FARM, PITT TOWN.

This farm is controlled by the State Labour Branch of the Department of Labour and Industry. At the 31st December, 1915, there were on the farm 10 students and 26 men. The number of students had decreased considerably on account of the War, although special efforts were made to bring the advantages of the institution under the notice of the lads desirous of agricultural training. The lack of students restricted operations, and this led to the initiation of a scheme of farm-training for women, which it was hoped would counterbalance the shortage of male labour by the addition of female trainees. At the close of the month of May, 1917, there were in residence at the farm 56 persons, comprising 31 members of the staff, and 2 male and 23 women students. The area under cultivation comprised 44 acres of maize, 40 of wheat, 20 of barley, 14 of oats, 12 of amber cane, 3 of swede turnips, and 2 of rios (pumpkins), besides an orchard of 35 acres. The women students were occupied also in market-gardening, management of a piggery, dairy and poultry-farming, horticulture, orchard pruning, and broom-making; and lectures and demonstrations were delivered by teachers from the Hawkesbury College.

STATE APIARY.

During the year 1915-16 the Department of Agriculture decided to establish an apiary, capable of being conducted on a commercial basis, which could be utilised for the study of diseases among bees. For this purpose a site was chosen on Crown lands situated $3\frac{1}{2}$ miles from Wauchope, in close proximity to a forest reserve of some 60,000 acres, heavily timbered with different varieties of eucalypts (principally ironbark and grey-gum), and with some brush-box, all bearing good honey-making bloom. The apiary comprises 36 acres, which will be only partially cleared at the beginning of occupation, and it is intended at first to carry about 80 hives, out-apiaries being established at suitable centres on adjoining Crown lands, as opportunity offers. When the undertaking is fully established students will be admitted to a course of training (for probably six months' terms), for which a nominal fee will be charged.

This State undertaking has been initiated under an Act (No. 24, 1916) to regulate the bee industry, and to prevent the spread of disease in bees. Under the provisions of the Apiaries Act, inspectors and any other necessary officers can be appointed, and penalties can be inflicted on bee-keepers who wilfully transgress the clauses combating the diseases peculiar to bees. The Act further provides that on and after the 1st July, 1916, any person keeping bees (other than native and indigenous) in any hive other than a frame hive, will be liable to a penalty not exceeding £20. This clause is levelled especially at the continuance of the use of box-hives, as diseases peculiar to bees are harboured and propagated by this type of apiary. Other clauses provide for the administration of the Act, but its strong and leading intention is the eradication and prevention of bee-diseases.

DREADNOUGHT FARM TRUST.

An agreement was made early in 1911 between the Government of New South Wales and the trustees of the Dreadnought farm fund as to the introduction of a number of lads from 17 to 20 years of age to this State for the purpose of following rural pursuits. Upon arrival, the boys are either placed in employment with farmers by the Immigration and Tourist Bureau or are sent to the Pitt Town training farm, near Windsor, where they receive general instruction; and three months afterwards they are

engaged to farmers in different localities, or placed in one of the agricultural colleges or farms for twelve months to receive practical and theoretical training. From April, 1911, to 30th June, 1916, the boys arriving numbered 2,164, of whom 1,268 were sent out as workers, 772 as trainees at Pitt Town farm, and 124 as students and apprentices at agricultural colleges and experiment farms. The training of these prospective farmers is under the care of the Superintendent of Labour, who places them in remunerative employment at the end of the term.

The trustees decided recently upon an extension of their operations, and advanced a portion of the required fares. Subject to the approval of their London representative, a lad is required to deposit only £3 towards his passage and landing money, and to sign an undertaking to repay £8 in instalments, extending over a period of eighteen months. In a number of cases where boys have been without means, the Trustees paid the whole of the passage-money, on condition that £6 would be refunded out of the first year's wages. The lads generally have kept their agreements loyally, and the refunds to date amount to £2,877.

The original capital was £80,122, and with accrued interest, £12,381, the fund increased to £95,759. Of this amount £40,000 was donated towards the establishment of the Royal Australian Naval College at Jervis Bay. The total cost of the management of the fund for seven years has been only £995. Other payments include passage money, £10,211; fees for students and apprentices at the Pitt Town training farm and the Government experiment farms, £4,676; loan to British Immigration League towards purchase of an immigrants' home at the Glebe, £5,342; and patriotic subscriptions, £155. The balance in hand at the 30th June, 1916, was £34,380.

GOVERNMENT WHEAT FARM.

Operations were begun at Woodlands towards the end of the year 1914, and within three months 27,646 acres had been cleared for the plough. Of this area, 11,500 acres were sown with wheat, but the harvesting prospects were considerably discounted by adverse weather conditions, the ultimate return being 2,400 bags of wheat, and 220 tons of hay. For the second year (1916) an area of 8,000 acres of land were fallowed, by the use of the caterpillar motor tractor, at an average cost of 5s. per acre. This area was later thoroughly worked by harrows and cultivators, and sown with wheat. As wheat-growing cannot be satisfactorily conducted without the aid of sheep, during the year under review a flock of 9,000 was bought in September, 1915, for the purpose of feeding-off the crop (then an apparent failure, owing to drought), the stubble-land, &c., and when they were sold in the month of March following, a net profit of nearly £2,000 was realised.

In far-western districts, such as that in which Woodlands is situated, the wheat-grower is under the necessity of not only sowing early-maturing varieties, but also of having them mature early in the season; for experience has taught the western farmer that the wheat crop must be well out in ear by the first or second week in September, in order to make certain of a yield. Hot winds frequently occur in those localities during the latter part of September and the early part of October, so that the grower must be in a position not only to decide whether he will cut his crop for hay or let it mature for grain, but actually to start cutting operations not later than the second or third week in September. In view of these requirements, everything that was possible was done with regard to the 1916 crop, including the preparation of the land, and the most suitable varieties of wheat to sow and time of sowing. At the end of the financial year there was every promise of a record harvest.

FARMERS' EXPERIMENT PLOTS.

A number of experiment plots, ranging from 1 to 20 acres, have been established throughout the State in order to give practical demonstrations to farmers regarding advanced methods of agriculture, improved varieties of seed, comparative value of manures, and new crops for respective soils and climates. The State has been divided into seven districts, and in each an inspector supervises the plots, gives lectures and demonstrations, and advises the farmers generally on agricultural matters. This system has been extended to the Murrumbidgee irrigation area.

With the establishment of the plots, in 1908, they were conducted on the following terms:—The land was provided by the farmer, the seed and the manure by the Department of Agriculture. The Department paid the farmer for the work of preparing the land, and for sowing, cultivating, and harvesting the crops, the farmer taking two-thirds, and the Department one-third of the resulting produce. It has now become a general rule that the farmer carries out the work without cost to the Department other than for seed, manure, and supervision, and receives the whole of the resultant crop.

These plots have proved valuable media of practical education for the farming community, special attention being directed towards the improvement of cultural methods of wheat and other cereals, potatoes, and grasses; and to the extension of the cultivation of leguminous plants, either in combination with cereals or separately, with the object of improving the feeding value of the green fodder, ensilage, and hay feed to the farmers' stock, and of increasing the fertility of their soils.

In 1915-16 the number of plots cultivated was 145, and the total area was 775 acres.

FARRER SCHOLARSHIPS.

The Farrer memorial fund was established by public subscription in honour of the late William J. Farrer, whose work in the production of new wheats has afforded great benefit alike to the industry and to the community at large. The money subscribed has been vested in trustees, and the interest is used for the Farrer research scholarship, the specific object of which is the improvement of wheat cultivation. The scholarship, which is valued at about £100 per annum, is granted to a candidate selected by the trustees from applicants possessing one of the following qualifications:—

- (a) A graduate in science, to pursue studies with original research in the Cambridge University Laboratory, or elsewhere outside the State. In such a case, the revenue for two years may be given for one year's research.
- (b) Graduate or undergraduate, to pursue the study of plant-breeding in University laboratories under the supervision of the Science Faculty.
- (c) Student who has taken a diploma from the Hawkesbury Agricultural College, or similar institution, to pursue the study of plant-breeding in the field, or in other approved way.
- (d) A young farmer, or other person, possessing necessary qualifications and aptitude for investigating this subject in the field under supervision of the trustees.

The selected scholar presents his results at the close of the year in the form of a paper to be published by the trustees. At the end of the year the holder of the scholarship may be re-appointed, or a new selection made.

The Government Farrer scholarship is offered for competition amongst students wishing to enter the Hawkesbury Agricultural College with a special view to study wheat cultivation. The value of the scholarship is £91, is awarded after competitive examination, and provides for the full education of the recipient during the three years' course, for the purchase of books and apparatus, and for the payment of medical, sport, and other fees. The trustees of the Farrer memorial fund are authorised specially to give priority in the matter of the Farrer research scholarship to a Government Farrer scholar at the close of his college course if he shows special aptitude for research work in connection with wheat cultivation.

The *Daily Telegraph* Farrer scholarship consists of a grant of books, apparatus, etc., to the value of £10, given each year by the *Daily Telegraph* Newspaper Co., Ltd., to the best wheat student at the Bathurst or Wagga Wagga experiment farm.

AGRICULTURAL BUREAU.

The Agricultural Bureau was established under the direction of the Department of Agriculture. Its objects are to collect and to disseminate information respecting plants, animals, or products likely to prove of value to cultivators; to discover the best methods of cultivating suitable economic crops, the breeding and feeding of domestic animals, and the preparation of products for market; to settle for each district the best times for fallowing, sowing, and harvesting; to prevent the introduction and dissemination of insect and fungus pests; to encourage social intercourse; and generally to advance the interest of persons engaged in rural industries. Government assistance is granted in the form of subsidies payable to each branch at the rate of 10s. for every £ of membership fees; by lectures and demonstrations by the Departmental experts; and by the supply, free of charge, of the publications of the Department, including the *Agricultural Gazette* and Farmers' Bulletins. The Bureau was established in 1911, and at the 30th June, 1917, there were 124 branches, as compared with 113 twelve months earlier.

AGRICULTURAL SOCIETIES.

A number of agricultural societies have been formed throughout the State, mainly for the purpose of holding exhibitions of agricultural, horticultural, and pastoral products, of live-stock, machinery and implements, of arts and manufactures, and for other purposes relating to rural industries. The exhibitions assist rural development by maintaining a high standard of products and of other interests represented by exhibits, and by making the public familiar with modern methods and appliances. From 1879 to June, 1916, the sum of £576,797 had been paid to these societies.

CO-OPERATION OF AGRICULTURISTS.

Endeavours are being made, through the agency of the Agricultural Bureau, to encourage co-operative efforts among agriculturists. Notable examples of the success of the Bureau are to be found in this State, as exemplified by the dairy factories, and in South Australia, where a large proportion of the exportable wheat is handled by a co-operative union. In addition to the advantages of co-operation, as a means of successful marketing of produce, the principle is capable of extension to the purchase of materials, manures, machinery, and seed. Farmers could combine for the joint-ownership of labour-saving machinery and stud-stock, for herd-testing, and for insurance; and they could, as a body, be able to obtain concessions from manufacturers, agents, etc., and with regard to freight, which, as individuals, they could not obtain.

The matter has been brought for general discussion under the notice of the various branches of the Agricultural Bureau, in order that the best method of applying co-operation to local requirements may be decided.

STATE ADVANCES TO SETTLERS.

To meet the demand for capital, and impelled by the necessity for affording assistance to settlers whose prospects had been affected by prevalent drought conditions, the Government inaugurated a system in 1899, by which advances are made to settlers on the basis of the French *Crédit Foncier*, at rates of interest and of repayment which are intended to be available for the benefit of every settler offering adequate security. The original Act of 1899 has received several amendments, and in 1906 the powers of the Advances to Settlers Board were transferred to the Commissioners of the Government Savings Bank of New South Wales, the maximum and minimum advances being fixed at £2,000 and £50 respectively.

On the 30th June, 1916, the advances made to settlers numbered 14,426 (total value, £4,119,842), and were equivalent to £286 per loan, of which 8,381, representing £1,606,510, were repaid, leaving 6,045 advances current at that date, the average balance of the principal being £416 per loan.

The operations of the bank relating to advances to settlers, since 1911, have been as follow:—

Year.	ADVANCES MADE.			REPAYMENTS.		BALANCES REPAYABLE.		
	Number.	Total Amount.	Average.	Number.	Total Amount.	Number.	Total Amount.	Average.
		£	£		£		£	£
1911	838	331,693	395	743	185,420	3,754	1,074,359	286
1912	940	475,070	505	572	153,093	4,122	1,396,336	339
1913	1,386	771,272	556	414	116,476	5,094	2,051,132	403
1914*	602	336,035	558	260	89,186	5,436	2,297,981	423
1915†	860	387,715	451	436	171,617	5,860	2,514,078	429
1916†	686	200,865	293	501	201,611	6,045	2,513,332	446

* Half-year ended 30th June.

† Year ended 30th June.

The Commissioners are empowered to make advances upon mortgages of land in fee-simple, and of land held under conditional purchase, or lease, settlement purchase or lease, and homestead grant or selection. The advances are made for the purposes of repaying existing encumbrances, of purchasing land, or to effect improvements, to utilise resources, or to build homes.

The conditions under which loans are repayable vary according to the circumstances of the individual case; the maximum loan to any one person is £2,000, the rate of interest ranges between $4\frac{1}{2}$ and 5 per cent., and the maximum period of repayment is thirty-one years.

The system is intended to confer, and does afford, material assistance to prospective settlers, as well as to those already engaged in the pursuit of agriculture.

BOUNTIES ON AGRICULTURAL PRODUCTS.

The Federal Government has provided for the payment of bounties in order to encourage the production of certain articles of native growth.

The agricultural products included in the schedule of bounties payable under the Bounties Act, 1907-1912, are shown hereunder.

Products.	Period from 1 July, 1907, During which Bounty may be Paid.	Rates of Bounty.	Maximum Amounts Pay- able in any one Year.
	Years.		£
Cotton, ginned	8	10% on market value...	6,000
Fibres—			
New Zealand flax	10	“ “ ...	3,000
Flax and hemp	10	“ “ ...	8,000
Jute	10	20% “ “ ...	9,000
Sisal hemp	10	10% “ “ ...	3,000
Oil materials supplied to an oil factory for the manufacture of oil—			
Cotton Seed	8	“ “ ...	1,000
Linseed (flax seed)	10	“ “ ...	5,000
Rice, uncleaned	10	20s. per ton ...	1,000
Rubber	15	10% on market value...	2,000
Coffee, raw, as prescribed	8	1d. per lb. ...	1,500
Tobacco leaf for manufacture of cigars, high grade	10	2d. per lb. ...	4,000
Fruits—			
Dates (dried)	15	1d. per lb. ...	1,000
Dried (except currants and raisins) or candied, and exported	10	10% on market value...	6,000

THE DEPARTMENT OF AGRICULTURE.

The Department of Agriculture, created in 1890 to advance the interests of the farmers and fruit-growers of New South Wales, deals with all matters essential to agriculture; and its practical functions are the collection of information by scientific investigation and practical experiments regarding the causes of the failures of crops, of improved methods of cultivation, of the means of combating pests, of the effects of fertilisers, of drainage and irrigation, of the introduction of new plants, of uses of new implements, of surplus products, and of the transport of produce to available markets; such information, when collected and formulated, to be placed at the disposal of the agricultural producers of the State, and every other kind of assistance to be rendered to them.

The Department, in conjunction with the Stock Branch, the Water Conservation and Irrigation Commission, and the Forestry Department, is administered by a Minister of the Crown. The scientific staff has been completely organised, and experts have been appointed to direct operations in agricultural chemistry, viticulture, entomology, botany, irrigation, fruit-growing, tobacco growing, veterinary science, biology, poultry-farming, apiculture, dairying, cattle and sheep breeding, and cold storage and export; and there are also a number of experimenters, inspectors and instructors. The Agricultural College and the experiment farms are controlled by the Minister.

The Stock Branch conducts investigations in animal pathology, while similar investigations relating to plant diseases, and to the bacteriology of soils, milk, cheese, wines, etc., are made by the Biological Branch.

Bulletins are issued for the guidance of various classes of rural workers, and most of the publications of the Department are supplied free to persons engaged in rural industry. The officials answer all

inquiries for advice or assistance, and they visit various parts of the country throughout the year to give demonstrations to the farmers, to conduct experiments, and to advise generally regarding agricultural methods.

The *Agricultural Gazette*, the official organ of the Department, is issued monthly. It presents to the farmers of the State the results of scientific researches and the investigations of official experts, it gives practical advice on the economic results dictated by these investigations, and it supplies seasonable notes on matters of scientific, practical, and industrial interest.

Country newspapers are furnished weekly with notes of the investigations and educational operations of the Department with respect to improved methods of agriculture, dairying, stock-raising, etc.; and efforts have been made by this means to develop many phases of primary production, fallowing, rotation in cropping, and the cultivation of maize being specially treated.

The staff of the Department has been seriously depleted by the demand for men for the Australian Imperial Forces, all but one of the scientific cadets having enlisted. Steps have not been taken to fill the vacancies so caused, and the positions of these young men have been kept open, so that upon their return they may pursue their education, and in due course take their place on the scientific staff.

The revenue and expenditure of the Department of Agriculture for the year ended 30th June, 1916, were as follow:—

<i>Revenue.</i>		£	<i>Expenditure.</i>		£
Agricultural College, Experiment Farms, etc. ....	...	41,519	Agricultural College, Experiment Farms, etc. ....	...	192,004
Wheat Area Establishment Store Account ... ..	...	6,322	Woodlands and Orange; Plains Wheat Areas ... ..	...	59,269
Repayments for Seed-wheat ... ..	...	124	Bulk Handling of Wheat; Seed Wheat, etc., for Distressed Farmers ... ..	...	113,440
Fees for fumigation, etc. ... ..	...	7,571	Departmental ... ..	...	57,019
Botanic Gardens, etc. ... ..	...	320	Mullah Scrub Lease, Trangie ... ..	...	7,478
Miscellaneous ... ..	...	577	Miscellaneous ... ..	...	228
Stock Branch ... ..	...	4,816			
Forestry ... ..	...	68,107			
		129,356			429,438
Less Refunds ... ..	...	468	Less Refunds ... ..	...	15,234
					414,204
			Forestry ... ..	...	50,531
			Stock and Brands, Pastures Protection ... ..	...	44,502
			Botanic Gardens, etc. ... ..	...	33,539
			Commercial Agents ... ..	...	3,013
Total ... ..	...	£128,888	Total ... ..	...	£550,789

The total expenditure for 1915-16 showed a decrease of £139,916 on the figures for the previous financial year. This was largely due to the fact that in 1914-15 the considerable sum of £340,510 was expended in advances of seed-wheat and fodder to necessitous farmers, whereas in 1915-16 the expenditure under this heading was only £110,873. The acquisition of new farms, and the development and equipment of others but recently acquired, were responsible for heavy disbursements, the payments on account of these properties being: North Bangaroo, £69,037; Woodlands wheat area, £59,269; Trangie farm, £29,586; Emu Plains, £6,620; and Forest Vale, £3,899. The revenue for the year was £128,888, representing a decrease of £5,381 on the previous year's figures. It is pointed out, in this connection, that until the 30th June, 1916, the accounts of the Forestry Department were kept by the

Department of Agriculture, and that its collections showed a decrease of £19,280 for the year. These accounts have now been transferred to the control of the Minister for Lands. As a matter of fact, the receipts for agriculture showed an increase of £13,899, but the net increase in revenue from the Hawkesbury Agricultural College and the farms was £17,944.

AGRICULTURAL EDUCATION AND EXPERIMENTS.

In order to obtain a thorough knowledge of local conditions and to afford an education in agriculture on scientific bases, the Government, as already detailed, has established the Hawkesbury Agricultural College. eleven experiment farms, four demonstration farms, a demonstration orchard, three viticultural nurseries, an apiary, an irrigation farm, a stud-horse farm, and an agricultural training farm, besides 'farmers' experiment plots established throughout the State. The agricultural training at the University and in State schools, including the Hurlstone Agricultural High School, has been described in the chapter relating to Education.

Farm schools are in operation at three experiment farms, the number of students at the 30th June, 1917, being: Wagga, 11; Bathurst, 14; and Yanco, 5. The fee is £15 for the first year, and £10 for the second year. Notwithstanding the reduced number of regular students at the college and at the farm schools, there were 3,211 young men at the end of the financial year 1915-16 who had completed their course of training in scientific agriculture or allied subjects.

Farm-apprentice schools have been established at the Wollongbar, Cowra, Glen Innes, and Grafton farms. The course enables students to qualify as farm labourers and small farmers, and the fee is £5 for six months, while a second half-year's training may be given in return for labour.

Schools of instruction for dairy-factory workers are held periodically in dairying districts. During the year 1915-16 six schools for cream-graders and testers were held, 123 students attended, and 48 certificates of competency in milk and cream testing were issued, and 26 in cream-grading.

In order to secure the maximum advantage of experimental work and to co-ordinate the methods employed, a committee of experts was appointed to supervise all scientific farming investigations and field experiments.

The total area of experiment farms was 42,642 acres, of which 6,390 acres were under cultivation during the season 1915-16, the proportion for various crops being as follows:—

	acres.
Cereals and hay	7,295
Fruit-trees and vines	461
Green fodder	1,100
Sown grasses and forage plants	1,326
Root and other crops	100

Much of the remaining area allotted to these farms was partially cleared, and a portion was under fallow, and a portion was ready for ploughing.

The winter schools at the Hawkesbury Agricultural College for farmers and their sons include a special course in poultry-farming, and in other subjects useful to those engaged in this industry, to which students of both sexes are admitted. During the year 1915-16 the attendance at the ordinary winter school was 71, and at the poultry-farmers' school, 32. The summer school in agriculture, also held at the college, during the month of January, was attended by 20 students of both sexes.

The Department of Agriculture has made special provision for the instruction of women in suitable branches of rural work, though financial restrictions prevent the full realisation of its aims in this connection. The summer and winter schools at the Agricultural College meet, to a certain

extent, the requirements of the case, but much remains to be done. It was at first intended to convert the demonstration orchard at Dural into a training-farm for women, at which could be imparted instruction in fruit-growing, poultry-farming, bee-keeping, flower and vegetable gardening, dairying, and pig-raising; but it was ultimately found necessary to make other arrangements.

In conformity with the policy of the Government to render all the assistance possible to returned soldiers desirous of settling in rural life, various courses have been arranged for specialised training. Courses of instruction for a period of twelve weeks in poultry-farming, vegetable and fruit growing, pig-raising, etc., are provided at the Hawkesbury Agricultural College. Returned soldiers can gain experience also at Wollongbar, in dairy-farming, in the breeding of stud dairy cattle, and in the mixed-farming suited to the semi-tropical conditions of the district. At both institutions instruction and board and lodging are given free. At the Leeton tobacco farm a number of returned soldiers are trained in the growing of the narcotic plant, besides in the cultivation of ordinary vegetables, under irrigation, each man so employed receiving 5s. a day, and free board and lodging.

WATER CONSERVATION AND IRRIGATION.

THE provision of an adequate water supply for other than domestic purposes is essential to the well-being of all primary industries, and particularly in a country liable to dry seasons which affect extensive areas. A large portion of the State receives an adequate and regular rainfall; but there is a considerable extent of country where all the factors exist which are requisite to success in agricultural pursuits excepting only a constant water supply. The recognition of the fact that the area suitable for cultivation might be extended largely by a comprehensive system of water conservation and irrigation has induced the Government to undertake various detached works and schemes, which will constitute portion of the ultimate irrigation system necessary to serve the whole State.

The Control of Water Conservation and Irrigation Works.

The system and the works necessary to its maintenance and development within the State of New South Wales are under the control of the Water Conservation and Irrigation Commission, which consists of the Minister for Agriculture for the time being as Chairman and two other Commissioners. The works controlled by the Commission include the great Murrumbidgee irrigation scheme, the small irrigation settlements at Hay and Wentworth, natural works of water conservation, shallow boring for settlers, and water trusts and artesian bore trusts operating under the Water Act. The Commission has control also of storages and diversions of water by private persons for purposes of conservation and irrigation.

The Murrumbidgee Irrigation Scheme.

The main features of this scheme include a storage dam across the Murrumbidgee River to retain the flood-waters, which will be released for use lower down the river during the irrigation season; a movable diversion weir about 240 miles below the dam, to turn the required amount of water from the river into the main canal; a main canal, leaving the river immediately above the weir; two main branch canals and a series of distributing channels through the area to be irrigated; bridges, regulators, checks, and other structures throughout the entire system; and means for measuring the volume delivered to each farm. Townships, roadways to serve each farm, and a general surface drainage system are also included in the scheme.

The site of the storage dam is at Burrinjuck, 3 miles below the confluence of the Murrumbidgee and the Goodradigbee Rivers. The dam-wall is being constructed of cyclopean masonry and concrete, and when completed will have a maximum height of 240 feet, and will impound the waters in a lake covering 12,740 acres. Sufficient water is being stored to meet the requirements of the farms already occupied, and to allow of water being drawn off during the summer months to augment the natural flow of the river for the benefit of riparian holders downstream. The reservoir will have a capacity of nearly 33,612 million cubic feet—771,641 acre-feet—the catchment area being about 5,000 square miles, drained by three principal streams—the Murrumbidgee, the Goodradigbee and the Yass Rivers—up which the water will be backed, when the dam is full, to distances of 41 miles, 15 miles, and 22 miles respectively above the dam. Direct communication

between Burrinjuck and the Main Southern Railway has been provided by the construction of a 2-foot gauge line from Goondah, a distance of 26 miles.

The diversion weir is situated at Berembed, about 40 miles by river and 19 miles in a direct line above the town of Narrandera. It is founded on a solid granite bar extending across the river, and has a length over all of 270 feet between abutments, divided into a sluice-way 40 feet wide in the clear; a lock chamber, 40 feet wide, capable of taking barges up to 100 feet in length; and 55 Channoine wickets which are manipulated from a punt working on a wire rope upstream. During the winter freshets the wickets are lowered, thus affording a clear waterway in the river channel.

The main canal branches from the river just above the weir, and, after passing through Narrandera, continues in a north-westerly direction, skirting the hills abutting on the plains. A scheme for enlarging the canal to double its present capacity (1,000 cubic feet per second) has been recommended by the Public Works Committee. There are two main branch canals, viz., the Gogeldrie Branch Canal, which offtakes at 47 miles from Berembed and runs approximately parallel to the Narrandera-Hay Railway through the Yanco area, and the Mirrool Creek Branch Canal, which commences at 78 miles from Berembed and supplies portion of the Mirrool area.

The scheme as described above applies only to the land on the northern side of the Murrumbidgee River. It was originally intended to provide a canal to supply the land on the southern side, but subsequently it was decided to apply all the water available from the Burrinjuck dam to the northern areas, sufficient land suitable for irrigation being there available which it is anticipated may be worked profitably in blocks devoted to dairying and stock-raising, or to fruit and vegetable growing, etc. When the areas are fully settled it is estimated that there will be about 6,000 farms and 100,000 people. With the aid of irrigation the soils and climate of these areas are suitable for the production of various apricots, peaches, nectarines, prunes, pears, plums, almonds, melons, cantaloupes, and citrus fruits, also wine and table grapes, raisins, sultanas, figs, olives, most varieties of vegetables, and fodder crops. Dairying, pig-raising, etc., are already being undertaken by settlers on the areas.

The Murrumbidgee Irrigation Act, passed in December, 1910, constituted a trust for the administration of the scheme, and provided the necessary authority for the acquisition of land, construction of improvements, levying rates, and generally for administering the irrigation areas and work. This Act was repealed in December, 1912, and the whole scheme as outlined above is now under the control of the Water Conservation and Irrigation Commission.

The lands acquired for irrigation to date include the North Yanco estate, the Gogeldrie holding, and various holdings in the Brobenah and Mirrool Creek districts—the total area acquired to the 30th June, 1915, being about 322,000 acres, at an estimated cost of £865,585.

The first area made available for settlement was in the vicinity of Yanco siding, on the Hay Railway line. The second, which is situated on the northern side of Mirrool Creek, is served by an extension of the railway from Barellan to Griffith. Further areas are being thrown open for settlement as the construction works are completed, and farms varying in size from 2 acres to 200 acres have been made available.

The "water right" or number of "acre-feet" of water allotted to each holding is definitely specified when a subdivision is notified as available for application. An "acre-foot" of water means such a quantity 12 inches

deep as would cover an area of one acre. The cost of water is 5s. per acre-foot; but the charge is reduced during the early years of occupation. During the first year 2s. 6d. per acre-foot is charged, thereafter it is increased by 6d. per acre-foot, until in the sixth and following years the full rate (5s.) becomes payable. Additional water (if available) may be obtained by arrangement. Some of the farms are 200 acres and upwards in extent, but the maximum "water right" allowed in respect of any of these larger farms is 80 acre-feet. The 50-acre farm is the usual large "all-irrigable" unit, but to suit the requirements of dairymen and other stock-farmers, blocks of larger areas are being made available. These include non-irrigable or "dry" areas in addition to the irrigable portion.

The conditions for the disposal of irrigation blocks are contained in the Crown Lands Consolidation Act of 1913, and certain amending Acts. Any person of or over the age of 16 years if a male, or 18 years if a female (other than a married woman not living apart from her husband under decree of judicial separation), or two or more such persons jointly, may apply for a farm or block. A married woman not judicially separated from her husband, or subject to any other statutory disqualification, may (a) acquire by way of transfer, with the consent of the Minister, out of her own moneys, a lease within an irrigation area; (b) continue to hold a lease which she held before her marriage; and (c) hold a lease which may devolve on her by will or intestacy of a deceased person. The tenure is perpetual leasehold.

The improvement conditions attached to the farm holdings include fencing, planting of trees for wind-breaks, construction of dwellings, destruction of noxious plants, and the cultivation of a specified area in each year.

The special reservation of a number of farms for application by Returned Soldiers is in contemplation. As a preliminary measure, a camp has been established on the Mirrool subdivision, at which it is proposed to employ Returned Soldiers in the first instance, and thus to afford the men an opportunity of gaining an insight into the climatic and other conditions connected with irrigation farming.

It is proposed that accepted applicants for this camp shall receive a weekly payment exclusive of their maintenance, and while in camp they will clear, fence, and grade the land, which will ultimately be made available to them for application as irrigation farms. Barracks have been provided, and a camp manager will have direct control thereof.

Subject to such conditions as to security and terms of repayment as the Commission may think fit to impose, settlers may obtain an advance, or have payment of rent or of water-rate suspended. Such advances are limited to the total amount of funds made available by Parliament for this purpose.

The Government Savings Bank Commissioners have statutory powers to grant loans upon a mortgage of irrigation farm leases, and many settlers have already obtained monetary assistance in this manner. Concessions in railway fares and freights are made on New South Wales railways to *bona fide* applicants for land.

The actual terms on which assistance is granted by the Commission are subject to alteration as may be deemed necessary, but the information given above outlines the system at present in force.

Towns and villages have been established at the centres of the Yanco and Mirrool irrigation areas, and the Commissioner is empowered to construct streets and to provide water-supply, sanitary, and other services. Factories to assist the settler in the disposal of his products have been established by

the Commission, and a thoroughly advanced butter factory is in operation at Leeton, the output for the year 1916 amounting to $3\frac{1}{2}$ tons per week. The factory supplies also ice to the residents of the town and to the settlers.

A vegetable and fruit-canning factory has been provided, the vegetables and fruits for treatment are purchased from the settlers, and the output is continuously increasing.

Abattoirs have been constructed at which pigs from the settlement, in addition to a considerable number from districts of the Riverina situated outside the irrigation areas, are slaughtered, together with all stock belonging to butchers, and designed for local consumption. A bacon factory for the treatment of the pigs has been erected in connection with the abattoirs.

In order to assist the settlers on the Mirrool area, which is situated over 30 miles from Leeton, a small cheese factory has been established at Griffith, and a good article for market is being produced. As an adjunct to the canning factory, a pulping plant has also been installed at Griffith.

One of the most important Departmental undertakings on the irrigation areas is the State nursery. For some years the Leeton nursery has been supplying trees to settlers, and a second nursery has now been established at Griffith. Every effort is made to supply only the best trees, free from every suspicion of disease, and in order to ensure this as much use as possible is being made of budding wood from proven trees in the Leeton nursery and at the Yanco experiment farm.

The Department of Agriculture, which controls the Yanco experiment farm, has also initiated at Griffith (in the Mirrool irrigation area) a viticultural nursery for the propagation of vines on phylloxera-resistant stocks, not only for the supply of settlers on the areas, but for vigneron in all parts of the State (see p. 1107).

An electric power-station has been erected near the Yanco siding, and electric light and power are supplied to the various factories, the business people, and the residents of Leeton and Yanco. The supply is available also for settlers when the number of applicants in any centre warrants the connections.

On the 31st December, 1916, the farms held numbered 890, and represented a total area of 40,174 acres. In addition, 113 township and village blocks were held under lease.

The following particulars indicate the extent of the work performed by the settlers in the cultivation of the Murrumbidgee irrigation areas at the 30th June, 1916:—There were 16,547 acres under grain, hay, and green-food crops; 2,651 acres under fruit trees; 564 acres under grape vines; 404 acres cultivated for kitchen-garden produce; 76 acres under root crops; and 39 acres attached to the nursery at Leeton conducted by the Commission—in all, 20,281 acres. The cultivation of grain occupied 4,107 acres; of hay, 9,429 acres; of green food, 2,964 acres; and of millet, 47 acres. Of the area under fruit trees, 111 acres were occupied by trees of bearing age, and 2,540 acres by young trees. Citrus fruit trees occupied 687 acres, of which area only 8 acres carried trees of bearing age. Fruit trees other than citrus occupied 1,964 acres, of which area 103 were devoted to trees of bearing age, and 1,861 to young trees. The citrus trees of bearing age numbered 729, and the young trees 61,764; and of other fruit trees 9,249 were of bearing age, and 170,248 were young trees; the total number of trees of all kinds being 241,990, of which 9,978 were trees of bearing age. The irrigation areas included in this summary were situated at Whitton, Leeton, Griffith, and Yanco.

OTHER IRRIGATION SETTLEMENTS.

Irrigation settlements have been established at Hay and at Curlwaa, near Wentworth; and in 1913 these were placed under the control of the Water Conservation and Irrigation Commission.

Hay Irrigation Area.

The irrigation area at Hay consists of about 3,842 acres, and it was prior to 1913 controlled by a trust appointed in 1897. The area held and used is 2,973 acres, by 78 holders, the irrigation leases containing 993 acres, and the non-irrigable leases 1,980 acres. The lands may be leased for periods not exceeding ninety-nine years, at rentals varying from 5s. to 10s. per acre per annum; the water-rate is fixed from time to time, and is at present £1 an acre per annum. The pumping machinery is similar to that at Wentworth, the capacity of the pumps being 4,000 gallons per minute. During the season of 1915-16 the quantity of water supplied amounted to 121,830,992 cubic feet. Dairying is the principal industry, the cultivation of fruit being very limited. The area not only supplies the town of Hay with fresh milk; but it produces in almost all seasons sufficient cream to supply employment to the Hay co-operative butter factory throughout the year. The soil is highly favourable to the growth of paspalum, rye, amber cane, and barley.

Curlwaa Irrigation Area.

The Curlwaa irrigation area comprises 10,600 acres, of which 2,165 acres are held by 67 settlers. The total number of non-irrigated blocks is 74, comprising 6,879 acres; and of these, 33 blocks, representing 3,846 acres, were in occupation on the 30th June, 1916, and an area of 1,290 acres had been reserved as a common. During the year 1915-16 approximately 1,200 acres were under cultivation, the greater part being devoted to the growing of oranges, peaches, nectarines, pears, grapes, sultanas, and currants. It has been proved beyond question that the Curlwaa area is eminently adapted to the culture of citrus fruits, some of the finest oranges grown in New South Wales being the product of this locality.

The estimated weight of dried fruit, the production of Curlwaa irrigation area, from the inception of the settlement to the year 1915-16, was as follows:—

Dried Fruit.	1912-13.	1913-14.	1914-15.	1915-16.
	cwt.	cwt.	cwt.	cwt.
Apricots	127½	260	130	188½
Nectarines	11½	16	3½	8½
Pears	8	43	138½	72½
Peaches	517½	768	653½	505
Lexias... ..	520	568½	313	620½
Currants	1,454	1,539½	532½	1,455½
Sultanas	1,462½	1,772½	1,406½	2,323
Elmes	146	150	.....	780½
Total	4,247	5,117½	3,178	5,954½

The value of the dried-fruit production for the twelve months ending the 30th June, 1916, was estimated as being not less than £18,000.

The pumping machinery consists of a suction-gas plant, supplying two engines of about 55-brake horse-power each, working two centrifugal pumps, with an average combined capacity of about 4,600 gallons per minute. With eight pumpings during the season of 1915-16 the quantity of water supplied amounted to 122,140,500 cubic feet. The main channels measure about 4 miles and 24 chains in length, and the subsidiary channels 4 miles and 31 chains, amounting together to a total channel length of 8 miles and 55 chains.

The land may be leased for periods not exceeding thirty years, the annual rent at the present time varying from 1s. to 10s. per acre. The rate for water is fixed from time to time by the Commission, and except in a few special cases is at present 20s. an acre per annum. Each lessee is entitled to receive a quantity of water equivalent to a depth of 30 inches per annum, limited to 4 inches in any one month.

Dairying is the principal industry; the cultivation of fruit is not extensive, owing to the distance from market.

Water Rights.

The Water Act (1912) consolidates the Acts relating to water rights, water and drainage, drainage promotion, and artesian wells. Part II of the Act vests in the Crown the right to the use, flow, and control of the water in all rivers and lakes which flow through or past, or are situate within, the land of two or more occupiers. It abolishes "riparian rights," and establishes a system of licenses for works of water conservation, irrigation, and drainage. Prior to the passing of the Act such works, on creeks, rivers, swamps, and lakes, constructed by private individuals, were liable to destruction by any person who considered their existence opposed to his interests. It is now illegal to interfere with any work for which a license has been granted. The security provided is stimulating the construction of irrigation works of a better class throughout the State, and that the advantages and benefits to be derived from private works of water-supply and irrigation are being more and more realised is shown by the increasing number of applications for licenses made yearly. During the year ended 31st December, 1916, the applications made for new licenses numbered 219, and 93 for the renewal of existing licenses. At the date mentioned approximately 1,090 licenses were in force.

Water Trusts and Bore Trusts.

Part III of the Water Act (1912) provides for the supply of water either for irrigation, stock, or domestic purposes, and for drainage, the liabilities on which are repaid to the Crown with interest spread over a period of years, and the works are administered by trustees appointed from among the beneficiaries under the Act, except in the case of trusts in the Western Division, when the Western Land Board is appointed as trustee.

For the supply of water, trusts have been constituted in connection with (a) seventy-six artesian wells; (b) five schemes for the improvement of natural off-takes of effluent channels, for the purpose of diverting supplies from the main rivers; (c) in three instances for the construction of weirs across stream channels; and (d) two pumping schemes—one from a natural watercourse, and one from a well. The total area included within these trusts amounts to 5,812,216 acres.

Artesian Water Supply.

The necessity of providing a constant water-supply for domestic use and for stock, in the dry portions of the interior of New South Wales, induced the Government to devote certain funds for the purpose of bringing to the surface such supplies as might be obtained from the underground sources which exist in the tertiary drifts and the cretaceous beds underlying an immense superficial area.

That portion of the great Australian basin which extends into New South Wales covers approximately 70,000 square miles, and is situated in the north-western portion of the State.

The probability of the existence of underground water had long been a subject of earnest discussion, but doubts were set at rest in 1879 by the discovery of an artesian supply of water on the Kallara sheep-station, at a depth of 140 feet. The Government thereupon undertook the work of searching for water, and since the year 1884 the sinking of artesian wells has been conducted under the direction of specially-trained officers in a systematic manner.

The following statement shows the extent of the work which has been successfully effected by the Government, and by private owners, up to the 30th June, 1916.

Bores.	Flowing.	Pumping.	Total.	Total Depth.
				feet.
For Public Watering-places, Artesian Wells, etc.	124	31	155	318,261
For Country Towns Water Supply	3	.....	3	4,354
For Improvement Leases	39	3	42	66,287
Total, Government Bores	166	34	200	388,902
Private Bores... ..	221	68	289	420,024

The average depth is 1,945 feet in the case of Government bores, and of private bores, 1,453 feet, and they range from 89 to 4,338 feet.

The deepest wells in New South Wales are at Boronga, in the county of Stapylton, with a depth of 4,338 feet and a daily outflow of 992,943 gallons; and at Dolgelly, in the parish of Careunga, in the county of Stapylton, with a depth of 4,086 feet, and a present outflow of 577,930 gallons per day. The largest existing outflow is that at the New Yarrowa bore, in the county of Benarba, which yields 1,062,133 gallons a day, and has a depth of 3,590 feet.

Of the 539 bores which have been sunk, 387 are flowing, and give an aggregate discharge of 97,509,510 gallons per day; 102 bores give a pumping supply, the balance of 50 being failures; the total depth bored represents 871,080 feet.

The flow from seventy-two bores is utilised for supplying water to stock on holdings served in connection with bore water trusts or artesian districts under the Water Act of 1912. The total flow from these bores amounts

to 38,124,836 gallons per day, watering an area of 4,421,461 acres by means of 2,702 miles of distributing drains. The average rating by the bore trusts to repay the capital cost, with 4 per cent. interest, in twenty-eight years, is 1·627d. per acre, including the cost of maintenance and administration.

In the majority of cases the remaining bores are used by pastoralists for stock-watering purposes only, but in a few instances the supply is utilised in connection with country towns. ...

The watering of the north-western country by means of bore water has largely increased the carrying capacity of the land; but, what is perhaps of greater importance, it has made comparatively small pastoral settlement practicable in country previously confined almost entirely to the operations of companies holding immense areas.

Action has now been taken to prevent any waste by the control of the bore-flow, and by its adjustment to actual needs, because it had been determined that the multiplicity of bores was the chief factor governing the annual decrease in flows, and also that the limitation of the discharge of water from a bore would be efficacious in the prolongation of its existence as an efficient flow.

Shallow Boring.

Water has been obtained from shallow bores by private enterprise in a very large number of districts, particularly west of the Dividing Range. Generally speaking, these bores have not exceeded 200 feet in depth, and in many cases failure in respect of either quantity or quality is due possibly to this fact. There are, moreover, large areas in various localities which have not yet been tested for underground water at shallow depths.

For many years the question of the exploration by the Government of underground water, which could be reached at sufficiently shallow depths to provide a water-supply for small settlers at a reasonable cost, had been under consideration, but until three years ago no definite action was taken. Towards the end of 1912 the shallow-boring policy for settlers, which is now in operation, was formulated, and the actual work of boring began early in 1913. The regulations under which the work is being conducted, briefly stated, provide for defined areas being declared shallow-boring districts, with a specified boring centre. In the first instance a certain time is given within which applications for bores are received from settlers within the district. On the expiration of the time allowed, the sinking of the bores for those settlers whose applications have been approved by the Commissioner is undertaken in such order as to minimise the cost of transport from one site to another. The applicant is responsible for the transport of the plant to his holding, and must provide the necessary wood and water during the progress of the work. The Commissioner supplies all plant, material, casing, tools, labour, etc. The applicant, on signing an agreement for the hire of the plant, has the option of either paying cash for the completed work, or of availing himself of a system of time payment, without interest, spread over a period of five years. Every effort is made to carry out the work as expeditiously as possible, compatible with good workmanship; but the settler is safeguarded against any excessive expense by the regulations, which provide that the completed cost shall be not less than a minimum of 7s. 6d. per foot, nor greater than a maximum of 11s. per foot. The maximum depth is 500 feet, as it is considered that the cost at this depth, at the maximum

price charged, would be as much as a settler could afford to pay for a permanent water-supply. It is not intended that the scheme should be wholly self-supporting, because failure to strike water in test-bores means that the Government would have to bear the expense; but in regard to bores put down for individual settlers in tested country the enterprise has met with considerable success.

Operations began with one plant only, but the number has been increased gradually until now eight are at work, and steps have been taken to purchase additional plants.

A large number of applications from settlers wishing to take advantage of the liberal conditions offered under the regulations has been received, and further applications are coming forward daily, so that even when the whole of the plants are at work they will probably be insufficient to cope with the demand. Out of sixty bores undertaken up to the 30th June, 1916, one was abandoned, because it was found impossible to recover lost tools, and seven others have proved failures. Of the remaining fifty-two bores completed, the cost to the settler has been on the average about half the cost charged by private contractors, while in all the bores latterly constructed a small profit has been made after charging the settler the minimum cost.

There can be no question that the added value of the holdings represented by the bores already put down is considerably in excess of their cost, and as fairly conclusive evidence of this, in several instances the Government Savings Bank has, on the completion of a bore, made the settler a sufficient advance to enable him to pay the total cost in cash.

In addition to the work conducted under the shallow-boring regulations outlined above, three plants are engaged in sinking bores on Crown lands in the Pilliga Scrub for the Lands and Forestry Departments. The primary object is the supply of water to sleeper-getters; but, later on, when the required timber has been taken out, it is proposed to throw open the lands for settlement, when the bores will be taken over by the incoming settlers. Under this scheme twelve bores have been completed and three are in progress, making in all seventy-two sunk by the Commission, inclusive of eight which were failures.

The fact that twelve of the bores put down in the Pilliga Scrub are giving a flowing supply is of special interest, as it indicates the possibility of tapping a small and hitherto unknown artesian basin.

Experiments at the State farms of Moree and Pera Bore, in the use of artesian water for cultivation, have proved that the supply from the bore can produce satisfactory crops for a considerable number of years. With a view to further demonstrating this in respect of large areas, a bore lined with wood-casing in order to resist corrosion, which is characteristic of this district, has been sunk at the Coonamble experiment farm, on a site where there is available a considerable quantity of soil typical of that occurring in the districts within the artesian area.

Private Artesian Bores.

Much has been done in the way of artesian boring by private enterprise. As far as can be ascertained, 316 private bores have been undertaken in New South Wales, of which twenty-seven were failures. The yield of the flowing bores is estimated at over 41 million gallons per day. No data are available regarding the pumping bores.

PROJECTED IRRIGATION SCHEMES.

The Water Conservation and Irrigation Commission are investigating schemes for storing water for purposes of irrigation on the Darling, the Lachlan, the Macquarie, the Hunter, the Namoi, the Peel, and the Warra-gamba Rivers.

The Murray River.

The River Murray Waters Act was brought into operation on the 31st January, 1917. Its principal objective is the storage of 1,000,000 acre-feet of water in a dam to be constructed on the Upper Murray, above the town of Albury, conjointly by the Governments of New South Wales and Victoria. Combined investigation by the two interested States has been in progress for some years, in order to determine the most suitable site for the construction of this great barrage. A number of proposed sites have been subjected to test, but hitherto finality of choice has not been reached.

The river-course will not be locked from the storage-dam to the Victorian town of Echuca, situated on the southern bank of the Murray, but therefrom to Blanchetown, in South Australia, 26 weirs and locks will be constructed, affording a navigable depth at all times for vessels drawing 5 feet of water. Above Wentworth the weirs and locks will be constructed conjointly by New South Wales and Victoria, and below Wentworth by South Australia. The Act provides also for the construction of locks and weirs on the Murrumbidgee River, from its junction with the Murray to Hay, or alternately, for an equivalent expenditure of £540,000, upon locking the river Darling from its junction with the Murray upwards. A system of storage, the control of which is to be vested in South Australia, will be provided in Lake Victoria.

The total expenditure involved by the construction of the works covered by the Act is estimated at £4,663,000, of which the Commonwealth Government will contribute £1,000,000, and the three interested States the balance in equal shares.

The effect of creating the River Murray storage system will be to ensure at all times sufficient flow below Albury to permit of diversions for irrigation, and for stock and domestic supplies, besides making good the losses in the water due to seepage, evaporation, and lockages. The Act provides that, subject to certain conditions, New South Wales and Victoria shall share the regulated flow of the river at Albury, and shall each have the full use of all the tributaries of the parent stream within its territory below Albury, with the right to divert, store, and use the flows thereof. It is estimated that the New South Wales regulated river-flow, after the construction of the Upper Murray storage-dam, will amount at least to 120,000 acre-feet per month at Albury during the irrigation season, except in a period of phenomenal drought, such as that of 1902 and 1903. An investigation is now being made of the manner in which the New South Wales proportion of the Murray waters can be most profitably applied, but as yet no conclusion has been reached.

The Darling River.

A preliminary investigation has been made of the Darling River, which shows that the most suitable site for the storage of large volumes of water for irrigation purposes is in the lake system to the east of the river. This comprises Lakes Boolaboolka, Ratcatcher, and Victoria, and a number of other lakes (seventeen in all) fed from the river in high floods from the

Taiyawa Creek, which takes off from the river about 260 miles above Menindie. A large area of high-class land can be commanded from this storage, and it will be served by the Condobolin-Broken Hill Railway when it is constructed. The question of establishing a small irrigation area in the vicinity of Menindie by direct pumping from the river has also received attention.

The Lachlan River.

The construction of a storage reservoir at Wyangala, below the confluence of the Abercrombie River, has been investigated, with the intention of affording water in the river-channel for pastoral purposes and for the irrigation of small areas along the river banks by pumping. A proposal is also being investigated for the increase of the storage in Lake Cudgellico, which is fed from the Lachlan River, and for the pumping thence of the water for the irrigation of an area of about 5,000 acres adjacent to the lake. The possibility of regulating the amount of water lost in numerous effluent creeks is being considered, so that the best use may be made of the Lachlan River water.

The Macquarie River.

The construction of a storage reservoir has been proposed on this river at Burrendong, below the confluence of the Cudgegong River, for the purpose of affording water by gravitation for the irrigation of certain lands to the west of Narromine. Smaller schemes for the construction of storage dams at White Rock and on Campbell's River, at Bathurst, have also received consideration. The run-off from this catchment is somewhat uncertain, and before giving consideration to the construction of any State irrigation scheme further investigation is necessary.

The Hunter River.

A scheme is being investigated for providing water for irrigation, by means of pumping, on the area adjacent to the Hunter River, which is one of the most fertile districts in the State and is capable of carrying a dense population under the conditions of intense culture by irrigation. Alternative proposals are under consideration for the construction of a storage-dam, either on the Upper Hunter or the Goulburn, and an examination has been made for storage sites on the whole of the tributaries of the Hunter River. The regulation of other coastal rivers by the storage of their waters is under contemplation.

The Namoi and the Peel Rivers.

Pumping by private irrigators under the Water Act is increasing at such a rapid rate that in the case of some of the rivers, such as the Peel and the Hunter, it will not be possible to supply the pumps in dry seasons until head storage works have been constructed. Surveys have been completed for a storage-dam on the Peel River, near Bowling Alley, and similar investigations are in progress for a dam on the Namoi River above Manilla.

The Warragamba River.

The Warragamba project will serve the dual purpose of amplifying the Sydney Water Supply and of irrigating the best lands in the Hawkesbury Valley. The rate of increase in the population of the metropolitan area during recent years, if maintained, will in a short space of time cause the consumption of water to overtake the capacity of the present catchment area of the Sydney water supply, and the next available source will then be the Warragamba River, a scheme for

the storage of water from which has been prepared. It is proposed to construct a large storage-dam capable of supplying at least 80 million gallons daily for the domestic service, 30 million gallons daily for trade purposes and compensation water, and 80 million gallons daily for irrigation purposes in the Hawkesbury Valley. The waters made available by this project will be used upon an area of probably about 30,000 acres in the vicinity of the Nepean and Hawkesbury Rivers. Surveys have been made and details prepared, and the scheme has been submitted to the Public Works Committee.

PASTORAL INDUSTRY.

LIVE STOCK.

No systematic record of the arrival of live stock was kept in the early days of settlement in New South Wales; but it appears that in the period between Governor Phillip's landing in 1788 and the year 1800 there were some small importations, chiefly of sheep from India. The numbers of each class of stock at various periods up to 1850, prior to the separation of Victoria, were as follow :—

Year.	Horses.	Cattle.	Sheep.	Swine.
1788	7	6	29	12
1792	11	23	105	43
1796	57	227	1,531	1,869
1800	203	1,044	6,124	4,017
1825	6,142	134,519	237,622	39,006
1842	56,585	897,219	4,804,946	46,086
1850	132,437	1,738,965	13,059,324	61,631

In 1851 the severance of Victoria from New South Wales reduced the number of stock considerably; the separation of Queensland at the close of 1859 involved a further reduction, and at the end of the latter year the numbers of each kind of live stock within the existing boundaries of New South Wales were 214,684 horses, 2,190,976 cattle, 5,162,671 sheep, and 119,701 pigs.

The following table shows the number of stock at the end of each decennial period from 1861 to 1911, also at the 30th June, 1916 :—

Year.	Horses.	Cattle.	Sheep.	Swine.
1861	233,220	2,271,923	5,615,054	146,091
1871	304,100	2,014,888	16,278,697	213,193
1881	398,577	2,597,348	36,591,946	213,916
1891	469,647	2,128,838	61,831,416	253,189
1901	486,716	2,047,454	41,857,099	265,730
1911	689,004	3,194,236	44,947,287	371,093
1916	719,542	2,405,770	32,600,729	281,158

In addition to the live stock shown above at the 30th June, 1916, there were 36,489 goats (including 7,191 Angora), 2,167 camels, 143 donkeys, 195 mules, and 606 ostriches. Since 1891 the sheep have diminished in number to the extent of nearly 29 millions, but the other classes of stock show the following increases, namely :—Horses 250,000, cattle 277,000, and swine 28,000.

Particulars of rural industry now relate to the twelve months ended 30th June. Until recently the pastoral and dairying statistics were for the calendar year, the latest in that respect being for 1913. In order to indicate the Divisions in which the changes in flocks and herds have occurred, the following table has been prepared, and shows the number of live stock in each Division at the end of various years since 1896 :—

Division.	1896.	1901.	1906.	1911.	†1916.
SHEEP—					
Coastal Belt	964,759	1,097,471	1,316,580	1,433,037	1,110,511
Tableland	7,036,733	8,859,069	8,842,352	8,961,344	6,583,312
Western Declivity	10,968,344	11,671,524	11,675,425	11,198,621	8,655,530
Central Plains and Riverina... ..	18,541,961	14,578,523	15,998,996	16,048,376	12,047,361
Western Plains	10,806,993	5,522,953	6,299,068	7,305,909	4,204,015
Unclassified ... ..	.....	127,559	.....	.....	.....
Total	48,318,790	41,857,099	44,132,421	44,947,287	32,600,729
DAIRY COWS IN MILK—					
Coastal Belt	233,530	284,099	355,238	492,242	345,398
Tableland	82,487	70,224	66,745	70,571	31,875
Western Declivity	46,578	39,732	49,002	48,669	28,877
Central Plains and Riverina... ..	26,372	19,790	21,178	24,137	18,123
Western Plains	6,216	3,990	2,657	2,906	1,954
Total	400,183	417,835	494,820	638,525	426,227
OTHER CATTLE,					
<i>Coastal Belt—</i>					
Dry Cows	} 612,797	667,282	100,919	136,790	203,826
Heifers (springing)			25,652	23,755	50,537
* All other			709,484	915,602	786,534
Total	612,797	667,282	836,055	1,076,147	1,040,897
<i>Tableland—</i>					
Dry Cows	} 541,493	500,974	26,440	31,207	50,111
Heifers (springing)			7,213	5,178	18,010
* All other			468,574	549,874	330,451
Total	541,493	500,974	502,227	586,259	398,572
<i>Western Declivity—</i>					
Dry Cows	} 403,294	305,789	25,199	26,112	33,697
Heifers (springing)			7,051	3,849	12,690
* All other			365,980	422,273	231,754
Total	403,294	305,789	398,230	452,234	278,141
<i>Central Plains and Riverina—</i>					
Dry Cows	} 199,817	114,327	15,409	20,153	23,670
Heifers (springing)			4,367	3,437	9,487
* All other			204,901	302,103	159,310
Total	199,817	114,327	224,677	325,693	192,467
<i>Western Plains—</i>					
Dry Cows	} 68,579	41,247	4,921	4,331	6,064
Heifers (springing)			1,058	1,407	1,400
* All other			87,956	109,640	62,002
Total	68,579	41,247	93,935	115,378	69,466
<i>New South Wales—</i>					
Dry Cows	} 1,825,980	1,029,619	172,888	218,593	317,368
Heifers (springing)			45,341	37,626	92,124
* All other			1,836,895	2,299,492	1,570,051
Total	1,825,980	1,029,619	2,055,124	2,555,711	1,979,543
HORSES—					
Coastal Belt	160,285	160,704	171,485	207,074	221,538
Tableland	115,314	112,294	110,077	126,602	125,070
Western Declivity	108,493	110,845	130,947	179,728	187,306
Central Plains and Riverina... ..	85,622	77,650	97,009	140,140	154,744
Western Plains	40,922	25,223	28,244	35,460	30,884
Total	510,636	486,716	537,762	689,004	719,542

* Including heifers, other than "springing."

† At 30th June.

SHEEP.

The suitability of the country for grazing was undoubtedly the inducement which led the early colonists to enter upon pastoral pursuits; and the relative ease with which operations could be conducted, in comparison with the difficulties attendant upon other primary industries, confirmed their choice.

In the year 1795, Captain John Macarthur, one of the first promoters of sheep-breeding in New South Wales, had accumulated a flock of a thousand sheep; but he was not satisfied with the natural increase of his flocks, and sought also to improve the quality of their fleeces. By good fortune, in 1797 Captain Waterhouse arrived from the Cape of Good Hope with a number of very fine Spanish-bred sheep, which he sold to various stockowners, and some were acquired by Macarthur. With the advantage of this superior stock, the latter gradually improved the strain of his flock, and in a few years he obtained fleeces of very fine texture.

Prior to the nineteenth century the production of the finest wool had been fostered chiefly in Spain, so that woollen manufactures were necessarily somewhat restricted, and it was at this favourable period that Macarthur arrived in England with specimens of the wool obtained from his finest sheep, proving conclusively the capabilities of Australia as a wool-producing country. In this way he established a small trade, which, as Australian wool rose in public estimation, gradually increased until it reached its present enormous dimensions; so that, although not the first to introduce merino sheep into Australia, there is no doubt that to him is due the credit of having been the first to prove that the production of fine wool could be made a profitable industry in this country.

As might have been anticipated, natural conditions in Australia somewhat varied the character of the Spanish fleece. The wool became softer and more elastic, and although diminishing in density it gained in length, so that the weight of the fleece has increased. The quality of the wool improved under the influence of the climate, and now the Australian variety is recognised as the best in the world.

The following table shows the number of sheep at the close of each quinquennial period since 1861 and illustrates the progress of sheep-breeding in New South Wales.

Year.	Sheep.	Year.	Sheep.	Year.	Sheep.
1861	5,615,054	1881	36,591,946	1901	41,857,099
1866	11,562,155	1886	39,169,304	1906	44,132,421
1871	16,278,697	1891	61,831,416	1911	44,947,287
1876	25,269,755	1896	48,318,790	1916*	32,600,729

* 30th June.

In view of the unimproved condition of the pasturage over a great portion of its area, it became apparent in 1891 that the State was overstocked, and graziers restricted the natural increase of their flocks by breeding only from the better-class ewes. In addition, the following season proved unfavourable, so that during the year there was a large decrease in the number of sheep. The adverse season of 1892 was, unfortunately, the forerunner of many others, so that with the exception of the year 1900, the whole period up to 1902 was distinctly unfavourable to the pastoral industry. The climax was reached during the 1902-3 season, which was particularly disastrous. The number of sheep fell from 41,857,099 at the beginning of 1902 to

26,649,424 at its close. In 1903 the flocks increased by little more than 2 millions, and as the number of lambs marked during the year exceeded 7 millions, there is abundant evidence that further heavy losses of grown sheep occurred during the early part of the year, when they could not have exceeded in number 25 millions, or 37 millions less than in 1891.

From 1902 there was a steady increase in the number of sheep until 1909, when it had risen to 46,202,578, the highest recorded since 1898. From 1909 the flocks have decreased considerably, the principal causes being heavy losses in lambs and grown sheep through drought, the subdivision of large holdings, and the change from the pastoral industry to dairying.

The decrease in the total was accompanied by great changes in the size of individual flocks, and these changes may be traced in the following table, which gives an approximate classification of the flocks for various years, from 1891 to 1916. In the former year there were only 13,187 holdings, but at 30th June, 1916, they numbered 24,738, although the sheep had decreased by over 29 millions. It is significant that while in 1891 there were 73 holdings which each carried over 100,000 sheep, the number of such in 1901 was 12, and in 1916 only 2. The sheep in flocks of over 20,000 comprised 62 per cent. of the total in 1891, but only 19·3 per cent. in 1916, while for 1891 the flocks under 2,000 comprised 9·3 per cent. of the total sheep compared with 28·2 per cent. in 1916. The greatest change has occurred since 1894, when a very large number of sheep perished, and pastoralists realised that the best method of meeting seasons of drought lay in the subdivision of their large flocks. Since 1904 the application to large estates of the closer settlement policy has caused a further subdivision of the flocks.

Size of Flocks.	Number of Flocks.				Number of Sheep.			
	1891.	1901.	1911.	1916.†	1891.	1901.	1911.	1916.†
1—1,000 ...	7,606	11,800	17,773	18,226	2,794,751	3,797,114	5,252,546	4,883,534
1,001—2,000 ...	1,954	2,351	3,510	3,029	2,979,168	3,560,849	5,149,618	4,297,424
2,001—5,000 ...	1,696	1,722	2,735	2,206	5,493,942	5,519,008	8,554,299	6,665,930
5,001—10,000 ...	686	729	847	696	4,943,221	5,210,117	5,977,233	4,863,817
10,001—20,000 ...	495	465	507	398	7,056,580	6,666,429	7,148,273	5,591,998
20,001—50,000 ...	491	344	296	159	15,553,774	10,552,373	8,737,927	4,495,051
50,001—100,000 ...	186	76	53	22	12,617,206	4,835,547	3,434,698	1,508,249
100,001 and over ...	73	12	6	2	10,392,774	1,588,103	697,693	294,726
Total ...	13,187	17,499	25,727	24,738	61,831,416	41,857,099*	44,947,287	32,600,729

* Includes 127,559 sheep in unclassified flocks.

† 30th June.

After allowing for the causes which naturally impede the increase, such as the demands of the local meat supply, the requirements of the neighbouring States and countries overseas, and the losses occurring from causes other than drought, it is found that the rate of annual increase has been as high as 20 per cent., so that it is possible for the flocks of New South Wales to double themselves within four years, and actual experience shows that this rate of increase occurred in 1904, and in several of the earlier periods. During the five-years' period 1861–6 there was an increase of 100 per cent.; and the flocks of the State were again doubled in the eight years from 1866 to 1874, and in the thirteen years from 1874 to 1887.

Until recent years the demand for sheep for local consumption was so small compared with the supply that it did not appreciably affect the increase of the flocks of the State. This, however, is not now the case; the annual demand for consumption as food within the State exceeds 10 per cent. of the number of sheep depastured—equal to nearly nine-tenths of the cast. The "cast" implies the number of sheep which, from breeding or wool-growing

considerations, it is more profitable to kill than to feed. Expressed as a percentage of the total number of sheep depastured, the "cast" is a variable quantity, which, however, may be taken approximately as $11\frac{1}{2}$ per cent. The number required for export in a frozen or preserved state, and for tallow, brings up the total killed per annum to nearly 13 per cent. of the entire flocks. It must, however, be remembered that this generalised statement does not refer to seasons of stressful conditions, to periods of protracted drought or disastrous floods, when the wholesale slaughter of flocks becomes imperative, and the single economic measure in a mass of waste is the boiling-down expedient.

The following table shows the approximate number of sheep in each State of Australia during the 1916-17 season, together with the proportion of the total depastured:—

State.				Sheep.	Proportion owned in each State.
				No.	per cent.
New South Wales	...	...	...	*35,000,000	46.37
Victoria	...	...	...	12,576,587	16.66
Queensland	...	...	...	15,524,293	20.57
South Australia	...	...	...	5,091,282	6.75
Northern Territory	...	...	...	*47,520	0.06
Western Australia	...	...	...	5,529,960	7.33
Tasmania	...	...	...	1,702,579	2.26
Commonwealth	...	...	...	75,472,221	100.00

* Subject to revision.

The introduction of sheep and cattle into New South Wales was forbidden for many years, lest the flocks and herds might be contaminated by scab and various diseases prevalent in other countries; but these restrictions were removed at the beginning of the year 1888, and pure-bred sheep are now imported from the United Kingdom, and from other countries. So far, the principal breed imported has been the Merino; but Lincoln, Southdowns, Vermont, Shropshire, and other well-known breeds have also been introduced. During the year ended 30th June, 1916, the sheep imported from Great Britain numbered 54, the breeds represented being Lincoln (47), and Romney Marsh (7). For the year ended the 30th June, 1917, long-woolled sheep to the number of 62 were imported from England, and included a ram of the Romney Marsh breed and 48 ewes of the same variety, besides 13 ewes of the Suffolk strain.

The principal breeds of sheep in New South Wales are the celebrated short-woolled Merino strain, Downs, and varieties of long-woolled English sheep, notably the Lincoln, the Leicester, and the Romney Marsh, together with

crosses of the long-woolled breeds, mainly with the Merino. Suffolk sheep, which appear to be pre-eminently adapted for farming purposes, and for the production of weighty lambs for the export trade, were introduced into the New England district during 1904. At the close of 1916, the numbers of merino and cross-breeds were as shown below, the figures being based on returns collected for assessment purposes by the Chief Inspector of Stock, and being apparently below the actual number depastured.

Class of Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.
Merino	349,956	14,067,597	6,119,800	4,638,186	25,175,539
Other Breeds— Coarse Wool	145,055	3,896,087	1,600,709	2,896,511	8,538,362
Total ...	495,011	17,963,684	7,720,509	7,534,697	33,713,901

Lincolns, and their crosses with Merinos, constitute the largest proportionate number of coarse-woolled varieties. The proportion of English and cross-bred sheep has increased considerably during more recent years. In 1893 the ratio of coarse-woolled and cross-breeds rose from about $2\frac{1}{2}$ to 4·3 per cent., but with the development of the meat-export trade it has since advanced to 21·5 per cent.

On account of the mildness of the climate the necessity of housing stock during the winter months, except on the highlands, does not exist in New South Wales. The sheep are kept either in paddocks or under the care of shepherds, although on some stations both methods are followed concurrently.

The paddocking system has many advantages, which are now fully recognized by stockowners. Paddocked sheep thrive well, and are less liable to foot-rot and other diseases; they grow a better fleece, and the wool is sounder and cleaner; the animal increases in size and lives longer; and the working expenses are less than those of the management of a station under any other system.

The increased attention paid to cross-breeding in order to supply the demands of the frozen-mutton trade, and the large increase in the number of settlers on small and moderate-sized holdings who combine grazing with agriculture, have together emphasised the necessity of conducting experimental breeding on a scientific basis, and of providing instruction for sheep-farmers. To meet this necessity a sheep and wool expert of the Department of Agriculture organises the class work conducted at State experiment farms, delivering lectures and giving demonstrations in country centres.

WOOL.

The prosperity of New South Wales depends very largely on the conditions of the wool market of the world, hence the wool-clip constitutes the most important event of the year in the production of the State. The following table shows the production in quinquennial periods since 1876, distinguishing the exports and the local consumption. The exports comprise both washed and greasy wool, but the actual weight of exports does not show the production clearly with regard to quantity. The proportion of washed and greasy wool varies with each year, and the washed wool should be stated, therefore, as in grease. This course has been followed in the presentation of the subjoined table.

In the tabulation shown hereunder the quantity of the staple used locally in woollen mills has been added to the quantity exported, and the total production, stated as in the grease, was as follows :—

Period.	New South Wales Wool.—Quantity.			Value.		
	Exported.	Used locally.	Total production.	Exported.	Used locally.	Total Value (F.O.B., Sydney).
	lb.	lb.	lb.	£	£	£
1876-1880	713,518,500	4,878,500	718,397,000	31,076,350	222,250	31,298,600
1881-1885	939,605,700	4,208,300	943,814,000	40,381,380	181,720	40,563,100
1886-1890	1,290,919,900	3,861,100	1,294,781,000	44,641,580	130,920	44,772,500
1891-1895	1,808,007,600	5,622,400	1,813,630,000	48,893,010	131,590	49,024,600
1896-1900	1,401,170,000	7,070,000	1,408,240,000	42,782,450	201,250	42,983,700
1901-1905	1,297,118,300	5,466,700	1,302,585,000	46,528,630	190,470	46,719,100
1906-1910	1,811,746,400	5,415,600	1,817,162,000	73,437,200	172,800	73,610,000
1911	369,144,000	2,402,000	371,546,000	13,178,000	86,000	13,264,000
1912	324,384,000	2,420,000	326,804,000	12,727,000	96,000	12,823,000
1913	355,501,000	2,484,000	357,985,000	14,237,500	99,500	14,337,000
1914*	130,310,000	1,500,000	131,810,000	5,244,000	60,000	5,304,000
1915†	314,765,000	4,170,000	318,935,000	12,058,000	170,000	12,228,000
1916†	255,578,000	6,467,000	262,045,000	12,010,000	281,000	12,291,000

* Six months—January to June. † Year ended 30th June.

The values given in this table represent the export prices free on board, Sydney, and consequently differ from those on a later page, which show the values at the place of production. As particulars of the interstate trade have not been collected since the 13th September, 1910, the subsequent figures are approximate.

Prior to 1876 no distinction was made between washed and greasy wool, so that any attempt to estimate the production is surrounded with difficulty. From the information available, it would appear however, that the production in 1861 was 19,254,800 lb., and in 1871 the weight in grease was 74,401,300 lb. An estimate of the production for the intervening years is rendered impossible because in several instances the greater portion of the wool clip was held over for a considerable period, awaiting an opportunity for shipment.

In this connection it must be conceded that all estimates must be more or less approximate, as wool in grease varies greatly, and one lot may in scouring lose between 40 or 50 per cent. as against the loss of another lot between 50 and 60 per cent. Such variations must necessarily be co-ordinated with variations in weight and value; but as the same proportion of wool in grease has been taken over an extended period, the foregoing table can be accepted as a basis of comparison.

The above figures show how greatly the prosperity of the State is affected by fluctuations in the market value of its staple export. If, for instance, the average annual production during the past five and a half years be taken at 321,660,000 lb., a rise of 1d. per lb. in the market price would mean an addition of £1,340,000 to the wealth of the people.

The season for exporting wool does not fall wholly within the calendar year, and the exports for any year consists partly of that season's clip and partly of the previous season's clip.

The following table shows the total number of sheep shorn, according to the returns collected by the Chief Inspector of Stock, during each year since 1891.

Year.	Sheep and Lambs shorn.	Year.	Sheep and Lambs shorn.	Year.	Sheep and Lambs shorn.
1891	57,702,702	1900	38,400,241	1909	43,356,535
1892	55,602,188	1901	40,417,263	1910	43,179,065
1893	54,090,109	1902	27,639,804	1911	42,468,227
1894	54,234,997	1903	26,994,870	1912	36,243,837
1895	45,695,657	1904	31,804,772	1913	38,454,612
1896	45,997,583	1905	37,145,686	1914	34,547,358
1897	42,429,750	1906	41,704,814	1915	30,531,037
1898	41,220,440	1907	40,338,700	1916	31,923,915
1899	34,569,924	1908	41,912,546		

WOOL SALES.

Almost all the wool exported was formerly shipped on the grower's account and sold in London, but during recent years over 85 per cent. has been sold in the Sydney market, as purchasers have realised the advantages of buying on the spot. The following table exhibits the growing tendency to operate in Sydney.

Seasons.	Total deep-sea exports (from Sydney and Newcastle).	Sydney Wool Sales.		
		Offered.	Sold at auction and privately.	Proportion of deep-sea exports sold in Sydney.
	bales.	bales.	bales.	per cent.
1887-88—1889-90	1,318,351	764,520	580,000	43-99
1890-91—1892-93	1,823,085	1,093,766	886,541	48-63
1893-94—1895-96	2,158,220	1,382,517	1,241,858	57-54
1896-97—1898-99	1,971,513	1,318,579	1,294,373	65-65
1899-1900—1901-02	1,766,922	1,330,747	1,309,915	74-14
1902-03—1904-05	1,549,598	1,232,819	1,252,817	80-85
1905-06—1907-08	2,356,811	1,969,061	1,939,916	82-31
1908-09—1910-11	2,771,200	2,265,155	2,364,555	85-33
1911-12	897,814	788,794	779,099	86-78
1912-13	773,458	665,978	669,235	86-53
1913-14	853,323	780,977	779,397	91-34
1914-15	732,810	553,269	549,955	75-05
1915-16	840,515	688,207	707,046	84-12
1916-17	590,372	716,110	705,676	*119-53

* A large quantity of the wool was awaiting shipment at the 30th June, 1917.

Of the wool sold in Sydney during the 1916-17 season, 7,379 bales were the product of other Australian States. On the other hand 134,093 bales of New South Wales wool were sold in other Australian markets.

The proportions of fleece and lamb's wool sold in the Sydney markets were 93-45 per cent. and 6-55 per cent. respectively; only 10-88 per cent. of the wool was scoured.

The great bulk of wool sold in New South Wales is merino, and during 1916-17 it represented 78-86 per cent. of the total wool sold at Sydney.

The average prices per bale realised in Sydney and in London since the year 1908 are shown in the following table.

Year.	Average Prices per Bale realised.		Year.	Average Prices per Bale realised.	
	In Sydney. Year ended 30th June.	In London. Year ended 31st December.		In Sydney. Year ended 30th June.	In London. Year ended 31st December.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1908	13 8 8	13 5 0	1913	13 12 10	16 10 0
1909	11 16 9	15 0 0	1914	13 6 6	17 0 0
1910	13 17 1	16 5 0	1915	12 6 2	19 0 0
1911	12 11 6	15 0 0	1916	14 14 8	27 0 0
1912	12 0 5	15 0 0	1917	19 19 2	...

In comparing the prices of the Sydney and London markets, it should be noted that in the former the season ends with June and in the latter with December, also that a much larger proportion of the lower qualities of wool, such as pieces, bellies, locks, etc., are sold in Sydney.

THE IMPERIAL WOOL PURCHASE SCHEME.

In pursuance of a policy of adequate military and naval supplies, the Imperial Government made an offer through the Commonwealth Authorities early in December, 1916, to purchase the balance of the Australian wool-clip for the season, a proposal which involved to some extent a departure from normal methods of buying and selling. It meant purchase by appraisement, a process by which the element of chance became eliminated from wool values, and prices were determined purely by reason of the merit of the staple. This did not affect, however, the whole of the season's clip, as a large portion had been sold under the old methods, and did not participate in the appraisement scheme. Under the pre-war system there was great uncertainty concerning record prices, and much depended upon the period when prices were at the highest point of the season. With the new system the record price was a criterion of the superlative attractiveness of the wool. "Condition" became a prime factor in the matter, and the favourite lines were those calculated to give the best clean-scoured yield. Wools of equal merit, but carrying more yolk than their successful competitors, might exhibit better returns per head of the flock, but they would not reach a record point on account of the yolk.

The auction sales of the season's clip closed abruptly in the last quarter of the year 1916, owing to the coal strike, and to the consequent shortage of freight space, when prices were at their highest point of the half-year, greasy merinos selling at 27½d. on the closing day. Before auction sales could be resumed the British Government's offer to purchase the balance of the clip was received, and there were no further sales of wool until the New Year, the time being occupied in negotiating with the Imperial Authorities, and in formulating the appraisement scheme with its details.

The appraisement scheme of wool-buying involved the initiation and construction of an entirely new method, but it was carried to a successful issue by a broad sense of Imperial patriotism on the part of the combined wool interests throughout the Commonwealth. The British Government, in a fine spirit of liberality, made practicable by the Federal authorities, permitted the industry to provide the machinery, and trusted it implicitly to carry out the work. The Central Wool Committee was formed, and included a chairman, nominated by the Commonwealth Government, two

representatives of the wool-growers, three representatives of the selling brokers, respectively of Sydney, Melbourne and Adelaide; a representative of the manufacturers; a representative of the scourers; a representative of the buyers; and a secretary. State Committees were formed also on a similar basis.

The price at which the clip was taken over was not fixed arbitrarily by the British Government, but was decided by the representatives of the wool-growers. The Prime Minister called a conference for the 20th November, 1916, at which were representatives of the wool-growers, the selling brokers, the manufacturers, and the wool-scourers, and to them was relegated the arrangement of an equitable price, which, in view of the prevailing conditions as to values, should be acceptable to the producer as well as to the Imperial authorities. For this purpose an average was taken of pre-war prices extending over several seasons, and was found to be slightly under 10d. per lb. for the markets of the Commonwealth. It was, therefore, decided that an advance of 55 per cent. would be a price equitable both to buyer and to seller, and it was fixed at 15½d. This conception of a fair appraisement is confirmed by the fact that returns of actual sales in the various selling centres during the month of October, and up to the 10th November, came out at a fraction under 15½d., and this period included the highest point of the pre-war market, and comprised sales of all descriptions of wool to the value of £5,500,000 sterling.

After the price had been fixed, the trade was confronted with the problem of evolving a workable system under which every owner's wool should be valued on its merits, according to quality and condition, so that separate prices could be determined for each section of an individual clip. It was, therefore, necessary to elaborate a basis of calculation, a task undertaken by a committee of experts, representing nearly the whole of the British and Allied wool-buyers and the selling brokers, and considerable time and study were devoted to the perfection of this table. Provision was made originally for 311 different types of wool, but even this minute classification proved inadequate, and it became necessary to increase the number to 318, and for the season 1916-17 to 381. The table covered calculations of the minutest description, and was brought into operation in every selling centre: so that owners throughout the Commonwealth were placed on exactly the same basis, results being identical wherever the wool was sold.

When the priced catalogues appeared, it was seen that three New South Wales lines of greasy merino fleece were appraised at 27½d. per lb., which was within ½d. of the record price of the season at auction; and a line of Collingwood scoured skin wool was appraised at 39d., which was a record price. The highest appraisement in Melbourne for greasy merino was 27d., and in Geelong 29d. Under the auction system, farmers' lots were "bunched," six bales of several brands being made into one lot. This mode had to be abolished, and every brand appraised separately.

As soon as the first series in Sydney had been completed, the wool-scouring establishments at Botany became insistent for faulty wools. There was some delay in connection with that side of the acquisition scheme, but it rectified itself by instalments of wool being made available for treatment, first from Sydney, and at a later date from Brisbane. The second series in Sydney included a good proportion of "stylish" wools from the New England district, and the appraised prices established records for the market. On the second day greasy merino sold to 28½d., which was ½d.

above the record auction price, and scoured to 39½d. On the fourth day the record for greasy was raised to 29d., and several brands of greasy merino fleece were appraised from 27d. to 28½d. There was no interval between the close of the second and the beginning of the third appraisal in Sydney. The first series amounted to 59,146 bales; the second series to 50,469 bales; and the third, which closed on the 15th February, to 49,299 bales. In the third series of appraisements, greasy merino fleeces sold at 29½d., which was another record; certain wools of the New England district brands were appraised at prices ranging from 27d. to 28½d.; some from the Southern Tableland and the South-western Slope, to 28d. and 27½d., respectively, and crossbred from the latter division secured the record price of 29d.; whilst Queensland wool scoured at Botany, achieved the record of 39½d.

Between the holding of the third and the fourth series, the Central Wool Committee announced that local manufacturers would be permitted to purchase sufficient wool to meet their requirements up to 30th September, 1917, instead of confining their purchases to wool for immediate purposes only. That decision enabled manufacturers to select the types of wool suitable for their trade while the selection was wide and choice, giving them the opportunity to stock wool for seven months ahead. It was announced at this time that the French Government was to be allotted Australian wools for military purposes; arrangements were also made by which France and some other Allies could obtain wools from the acquisition, and a "Comité Lainier," or Wool Board, was appointed to supervise matters in connection therewith. It was decided that only lots coming within certain ranges of types of wool should be set apart for such purpose. The "Comité Lainier" selected the wools required for allotment to those permitted to acquire wool under the scheme.

The fourth Sydney series began on the 5th March, the thirteen catalogues aggregating 51,158 bales. These were all submitted by the 13th March, when the fifth series, comprising 53,803 bales, was commenced without any intermission, and concluded by the 22nd March. The offerings continued to comprise a good proportion of high-class clips from the Northern and the Southern Tablelands, together with some well-known brands of country and local scoured. The greasy record for the season was equalled by a consignment from Armidale, and by another consignment from Goulburn. The scoured record was put up to 41½d. by an Aberdeen brand from the Scone district, but it was superseded later by a wool from a Western Division station west of the Darling.

The appraisal system was now smoothly and expeditiously operating. As set forth by the Australian Prime Minister on the 14th March:—"Payment regularly followed the appraisements, and a deduction of 10 per cent. was retained by the Commonwealth Government to cover any contingencies that might arise through over-valuation of the wool. The adjustment would be made at the close of the final appraisalment on the 30th June next. The money represented by the 10 per cent. deduction was invested with the Bank of England, and was earning interest the whole of the time. The proceeds of this investment would be added to the wool-growers' account, and would form part of the final distribution. In addition, a considerable sum would be returned on earnings through exchange, as between London and Australia."

Reference was made also to wool for France, and to the prospects of supplying Russia with scoured wool. The Prime Minister made the statement that a quantity of the staple was being forwarded under instructions from the British Army Contracts Wool Committee to France, for military

purposes, and that arrangements were well under way to have wool scoured locally and shipped to Russia. Moreover, the requirements of wool for military purposes to other allied countries were also under consideration, and would receive early attention.

Prior to the dissolution of the Federal Parliament, the Prime Minister, speaking in the House of Representatives, said, with respect to the manufacture, sale and export of wool-tops to Japan :—" The Central Wool Committee recommended that the manufacture of wool-tops for export should be controlled by the Commonwealth Government during the War period. This had been confirmed, and agreements had been prepared for the proper performance of the extension of contracts for wool-tops for Japan. The price obtained for the wool-tops was that fixed by the Imperial Government, so that the buying and selling prices were controlled by the Government of the Commonwealth. Substantial monetary guarantees had been lodged for the due performance of these contracts by the manufacturers. Of the net profits 50 per cent. would be paid to the Commonwealth Government, and 50 per cent. would be retained by the manufacturing companies. It was probable that if the scheme were extended to cover next season's wool, in addition to the current clip, sufficient money would be recovered by the Commonwealth Government to equal the amount paid as bounties for the encouragement of the wool-tops industry."

The sixth series of catalogues in Sydney included a special "star-lot" section, which was appraised prior to the valuation of the larger catalogued quantities. This series was entered upon, immediately after the Easter holidays, on the 10th April. The large lots began on the 16th April, and concluded on the 24th April. They were at once followed by catalogues comprising the seventh series, which extended from the 25th April to the 3rd May. The limit for the two series was set down at 80,000 bales, but this was exceeded, 55,817 bales being appraised in the sixth and 29,009 in the seventh. As the Sydney catalogues continued to include portions of high-class clips, some of the appraised prices approached the record height, ranging from 26d. to 29d. for greasy, and for scoured to 40½d. Generally speaking, the selections included, however, a smaller proportion of super wools and a larger proportion of medium and faulty.

While the seventh series was in progress in Melbourne, the eighth was being appraised in Sydney, and the latter included some autumn-shorn wool, though the bulk of the catalogues were of a concluding and complementary character. Crossbreds were more numerously represented than is ordinarily the case; and, although the quantity submitted aggregated only 48,758 bales, a record number of lots was catalogued, and there was a fair display of country-scoured wool. The ninth was the last of the regular series, but it was followed by a final minor series, for the purpose of taking in any very late consignments besides scoured wools from the fellmongering establishments. The ninth Sydney series, comprising some 46,415 bales, was dealt with in two sections, and small lots largely preponderated. A number of the autumn-shorn wools were lacking in length, and carried more or fewer seeds and burrs, and there were no exceptional prices. The bulk of the wools were dealt with in the centres by the third week in June. Then came the finals in Sydney, Melbourne and Brisbane—and these ran into the beginning of a new statistical year before a conclusion was reached.

Under date the 19th July, 1917, the Chairman of the Central Wool Committee submitted to the Commonwealth Parliament a statement concerning the purchase by the Imperial Government (through the Commonwealth Government) of portion of the clip for the season 1916-17. This statement

set forth that 982,376 bales, 8,682 butts, and 119,413 bags of greasy wool, weighing 323,748,376 lb., and 145,912 bales, 187 butts and 894 bags of scoured wool, weighing 34,310,645 lb., had been appraised under the Imperial Government's purchase. The number of lots appraised, both of greasy and scoured wool, numbered 297,160. There has, in addition to the foregoing, been re-appraisalment of scoured wools on behalf of the Imperial Government and the Russian Government, and re-appraisements also on re-packed wools.

With the object of returning to the woolgrowers of Australia the average flat rate of 15½d. per pound of greasy wool, a clean cost basis was established; the average appraised price of greasy wool was equal to 14.72d.; and nearly 300,000 separate and independent valuations were made on 381 types of the staple. The average appraised price on scoured wool was equal to 22.86d. per pound, and such wool comprised specially scoured Queensland wool, skin wool, locks, pieces, and crutchings. The average price on all wool, greasy, and scoured calculated as greasy, appraised under the scheme was 14.15d. per pound. The difference between this average on the whole quantity of wool appraised and the 15½d. basis is equal to 9.5 per cent. of the average appraised price of 14.15d. per pound. Subsequent operations have shown that the total dividends have exceeded 10 per cent. of appraised prices.

The local requirements for woollen manufacturers amounted to 10,207,834 lb., and the average appraised price was 11.24d. per pound. According to the War Precautions Regulations, the wool sold to manufacturers was to be paid for at the appraised price. This was proved to be under the 15½d. flat rate, hence the Commonwealth manufacturers have secured their supplies at a discount of £45,600 on the flat rate basis, or an average reduction equivalent to 0.027d. per pound on all wool appraised. A large proportion of this wool, approximating a third of the quantity consumed by the manufacturers, has been used by the woollen mills within the Commonwealth in the fabrication of goods for the Defence Department, considerably to the advantage of the Federal Government.

Wool on the greasy basis was required to the extent of 5,995,673 lb. for the manufacture of tops for export, and the average appraised price therefor was 20.04d. per pound. The manufacture of tops for export is under the control of the Commonwealth Central Wool Committee. The raw wool used in this industry is paid for on the flat rate basis of 15½d. per pound, and "tops" are sold at prices fixed by the Army Contracts Wool Committee, London. Agreements are in force between the Commonwealth Government and the manufacturing companies whereby the profits are regulated, according to definite detailed terms a certain percentage is returned to the former.

The actual quantity of wool sold to the Imperial Government (1916-17 season) was 376,166,159 lb., which is equal (at 15½d. per pound of greasy wool) to £24,294,064, less a credit of £25,937. due to slightly higher-grade wools having been selected by Commonwealth manufacturers. The total value of the wool controlled and brought under the scheme amounted to £25,340,541. The charge of ½d. per pound to cover handling costs from warehouse to f.o.b., remuneration to wool and shipping appraisers, and expenses incurred by the Commonwealth Government, as agents for the Imperial authorities, were £893,171. At the date of statement it was not possible to determine whether this amount would be sufficient to cover all charges, as much depended upon the wool on hand, storage, and other incidental costs.

Wool credits for the staple appraised to 30th June, 1917, were stated to be as follow:—From the Imperial Government: On account of wool,

£23,167,479; handling charges, £893,171; total, £24,060,650; Australian manufacturers, £979,059; exchange, £45,643; interest, £40,288; grand total, £25,125,640. The 10 per cent. retention money deducted from the appraised valuation, and amounting to £2,313,461, will be distributed in all capitals by the wool-selling houses at the end of the season, and a dividend (the first) of 5 per cent. was declared for payment on the 2nd October, 1917. Several months must, however, elapse before another dividend can be declared, and for some considerable time it will be impossible to give even an approximate estimate of the final dividend, on account of the Imperial Government's purchase of Australian wool, forming part of the clip for the season 1916-17.

It was expressly noted in the statement that sales of interests in the Wool Pool would not under any circumstances be permitted, and all speculations in wool were also forbidden. It is further remarked that the quantities shipped and the places of destination, together with particulars respecting wool stored for shipment, could not, for weighty reasons, be disclosed; and wool-selling houses and appraisers were notified that any information that they might possess relating to wool statistics should be regarded as strictly secret.

The statement emphasised the fact that the Australian wool industry as at present conducted is far from being well organised, particularly with regard to fellmongering, scouring, carbonising, and wool tops and woollen manufacture, and that if the maximum value of the wool were to be obtained by growers of the staple, it was highly necessary that greater attention should be extended to these subsidiary industries. In New South Wales the average appraised price per pound ranged from 9·75d. to 17·01d. for greasy wool, and from 18·56d. to 22·18d. for scoured. The foregoing figures are those for the Australian Federation as a whole, but New South Wales obtained the major benefit from the Imperial wool-purchase scheme, as the pastoral interests of this State greatly predominate, and nearly half the number of sheep depastured throughout the Commonwealth are contained within its borders.

CATTLE.

Though still a very important industry, cattle-rearing does not now occupy so prominent a position as formerly it did. The number of cattle returned at the close of various years since 1861, shows that there was a great decline in the total from 1876 to 1886, that the number steadily increased from 1886 to 1896, when it stood at 2,226,163, and since then, owing to unfavourable seasons, the number decreased until in 1902, the total fell to 1,741,226. From 1902 the number increased to 3,194,236 in 1911, but at 30th June, 1916, it was 2,405,770, a total showing a decline of 71,882 on that of the previous year.

The following table exhibits the number of cattle depastured in the State at the close of each quinquennial period from 1861 to 1901, and thence for each year to 1913; the numbers of cattle depastured in 1915 and 1916 were for years ended the 30th June.

Year.	Cattle.	Year.	Cattle.	Year.	Cattle.
1861	2,271,923	1901	2,047,454	1909	3,027,727
1866	1,771,809	1902	1,741,226	1910	3,140,307
1871	2,014,888	1903	1,880,578	1911	3,194,236
1876	3,131,013	1904	2,149,129	1912	3,040,834
1881	2,597,348	1905	2,337,973	1913	2,822,740
1886	1,367,844	1906	2,549,944	1915*	2,477,592
1891	2,128,838	1907	2,751,193	1916*	2,405,770
1896	2,226,163	1908	2,955,934		

* At 30th June.

The principal breeds of cattle now in the State are the Durham or Shorthorn, Hereford, Devon, Black-polled, Ayrshire, Alderney, and Jersey, besides crosses from these various breeds. At the close of the year 1916 the numbers of each breed, as far as could be ascertained, were :—

Breed of Cattle.	Pure and Stud.	Ordinary.	Total.
Shorthorns	81,239	513,007	594,246
Hereford	27,582	107,588	135,170
Devon	6,094	25,813	31,907
Black-polled	2,399	13,080	15,479
Red-polled	911	1,635	2,546
Ayrshire	8,415	54,424	62,839
Alderneys	928	2,531	3,459
Guernseys	1,525	10,701	12,226
Holstein	705	3,843	4,548
Jersey	15,737	70,830	86,567
Kerry	56	.....	56
Highland	40	120	160
Crosses (first) ... ..	.....	1,411,949	1,411,949
	145,631	2,215,521	2,361,152
The crosses are estimated as follow :—			
Shorthorn—Hereford ... ..	.....	.....	268,392
Shorthorn—Devon ... ..	.....	.....	115,577
Shorthorn—Alderney ... ..	.....	.....	600
Shorthorn—Guernsey ... ..	.....	.....	5,300
Hereford—Devon ... ..	.....	.....	44,966
Ayrshire—Shorthorn ... ..	.....	.....	196,495
Hereford—Jersey ... ..	.....	.....	2,000
Hereford—Black-polled ... ..	.....	.....	713
Black-polled—Shorthorn ... ..	.....	.....	55,663
Jersey—Shorthorn ... ..	.....	.....	47,209
Holstein—Jersey ... ..	.....	.....	100
Holstein—Ayrshire ... ..	.....	.....	200
Devon—Red-polled ... ..	.....	.....	126
Unrecognisable ... ..	.....	.....	674,608
Total ... ..	.....	.....	1,411,949

The foregoing table does not include the whole of the cattle, as large numbers, principally in the metropolitan centres and in the vicinity of towns, are not returned. As the statistical year now ends in June, it is impossible to estimate to what extent the figures are understated.

In 1915-16 the number of calvings recorded was 620,150, of which 395,997, or nearly 64 per cent. represented survivals.

There has been an appreciable increase in the number of dairy cattle, many of the farmers in the coastal districts having turned their attention to the dairying industry with very satisfactory results. The number of milch cows at 30th June, 1916, was 426,227, an unusually large number having been dried-off on account of drought conditions. In addition to the milking cows, there were 317,368 dry dairy cows, 92,124 heifers within 3 months of calving, and 207,999 other heifers.

The breed of cattle throughout the State is improving steadily—a result due to the introduction of good stud-stock; to the greater attention and care exercised in selection and breeding, more particularly for dairying purposes; to culling from the herds; and to keeping the cattle in paddocks. In order to

encourage and assist dairy farmers in improving their breeds, the Government imported some high class stud-bulls from England, and these and their progeny are sold, or they are kept for service, at the State farms. There are now between twenty and thirty of this class of bull available.

Importations from Europe and America were discontinued for many years, owing to the natural dread of the stockowners lest their herds should contract diseases which have devastated the cattle of other countries. The prohibition was removed in 1888, and cattle are now admitted after quarantine; the number so admitted in 1916 was thirty-three—sixteen bulls and seventeen cows.

The exports of New South Wales cattle to countries overseas during 1915-16 numbered 184. Of these 103, valued at £538, were ordinary cattle, and 81, valued at £2,829, were cattle for stud purposes.

HORSES.

At an early period the stock of the country was enriched by the importation of some excellent thoroughbred Arabs, and Australian horses have thence acquired a high reputation. The number in the State steadily increased from 326,964 in the year 1883 to 518,181 in 1894; but, owing to the drought, the total fell in 1895 to 499,943. In 1896 there was an increase to 510,636, attributed to extension of settlement, greater attention being given to breeding, and a decline in the sales for export. By successive decrements the number of horses had fallen in 1902 to 450,125; but since that year there has been a substantial increase, and the number at the end of 1913 reached 746,170. Owing to losses from drought, the total fell to 733,341 at the 30th June, 1915, and the decline continued to the 30th June, 1916, when the total number of horses in the State was 719,542. There was a great advance in horse-breeding between 1910 and 1914 owing to the increased demand which arose as a consequence of widening settlement, prosperous seasons, and, more recently, to defence requirements.

The following table shows the number of horses in New South Wales at the end of quinquennial periods from 1861 to 1901, thence at the end of successive years from 1901 to 1913, and at the 30th June, 1915 and 1916 :—

Year.	Horses.	Year.	Horses.	Year.	Horses.
1861	233,220	1901	486,716	1909	604,784
1866	274,437	1902	450,125	1910	650,636
1871	304,100	1903	458,014	1911	689,004
1876	366,703	1904	482,663	1912	716,457
1881	398,577	1905	506,884	1913	746,170
1886	361,663	1906	537,762	1915*	733,341
1891	469,647	1907	578,326	1916*	719,542
1896	510,636	1908	591,045		

* At 30th June.

For purposes of classification the State's equine stock has been divided into draught, light-harness, and saddle horses, and the number of each particular kind, at the 31st December, 1916, so far as could be ascertained from returns collected by the Stock Department, was as follows :—

Class.	Thoroughbred.	Ordinary.	Total.
Draught ...	30,575	248,097	278,672
Light-harness ...	10,805	132,198	143,003
Saddle ...	22,903	166,166	189,069
Total ...	64,283	546,461	610,744

New South Wales is specially suited to the breeding of saddle and light-harness stock, and it is doubtful whether in these particular classes the Australian horse can be anywhere surpassed. Thoroughbred sires are kept on many of the large holdings and the progeny of these stallions combine speed with great powers of endurance. Although fed only on the ordinary herbage, these animals constantly perform long journeys across difficult country, and become hardy and sure-footed to a high degree. The possession of these qualities gives them great value as army remounts.

The approximate number of animals fit for market is as follows :—Draught, 40,784; light-harness, 26,870; saddle, 34,930; total, 102,584. Of these it is estimated that about 24,875 are suitable for the Indian and other markets.

IMPORTATION OF HORSES.

During the year 1915-16 the horses imported from Great Britain numbered 83, all thoroughbred, with the exception of one Welsh cob; whilst a performing pony was imported from America. During the year 1916-17 the horses imported from Great Britain and America numbered 43, including 29 mares. In this connection it is important to note that the Federal Customs Department does not keep a record of interstate movements of stock. These animals were all subjected to the prescribed quarantine. The marked increase in the importation of thoroughbred horses, amounting to 82 in a single year, is due to the fall in prices of all equine stock in England, and particularly to a limitation of the number of first-grade race meetings, due to decrease of fodder for stock and to general war conditions; but it is due also to the fine form and good records shown on the Australian turf by recently imported thoroughbreds, hence further extensive importations are under contemplation.

In December, 1914, the Government landed a draft of 17 Clydesdale mares, purchased principally in Scotland, with the object of improving this breed in the State, and they were sent to the stud-horse farm at North Bangaroo, in the Canowindra District.

EXPORTATION OF HORSES.

There is a considerable exportation annually to countries outside Australia, and the following table shows the number and the value of horses bred in New South Wales and sent to countries outside Australia in the years 1900, 1905, 1910, and 1915-16 :—

Countries.	Number.				Value.			
	1900.	1905.	1910.	1915-16.	1900.	1905.	1910.	1915-16.
Burmah ... ..	...	95	85	...	£	£	£	£
Fiji	48	446	190	217	1,220	11,189	4,566	5,783
Hong Kong	5	404	...	...	115	15,021	...	...
India	1,688	1,922	925	5,146	18,521	42,774	20,522	103,180
New Zealand... ..	189	118	106	28	3,276	4,188	6,460	4,807
South Africa	7,714	8	1	...	124,485	1,780	25	...
Straits Settlements	295	121	42	61	7,440	3,110	6,645	1,620
China	1,489	85	1	...	41,600	2,041	60	...
Japan ... ..	...	1,631	31	35	...	26,495	1,620	1,900
Java	36	265	98	22	720	3,345	2,747	535
Philippine Islands	35	190	397	8	1,060	3,085	9,985	1,200
Other Countries	73	121	50	13	4,848	3,311	1,743	309
Total	11,572	5,406	1,926	5,530	203,285	118,964	57,116	119,334

* Twelve months ended 30th June, 1916.

For many years India offered the best market for Australian-bred horses, but the trade shows great fluctuations.

The large number exported from New South Wales in 1900 was due to the despatch of mounted troops to the South African war; but, apart from this, and mainly on account of the greater local demand, there has been a considerable decrease in the exportation of horses for ordinary purposes. Since the commencement of hostilities in Europe large numbers have been exported, but particulars are not available.

VETERINARY EXAMINATION.

As a means of improving the standard of horses in the State, the Minister for Agriculture decided that all stallions so designated, and entered as competitors for prizes at annual shows connected with agricultural societies desirous of participating in the Government subsidy, should be subjected to veterinary examination, not only with the object of detecting hereditary unsoundness, but in order to decide general suitability for stud service. It was recognised, however, that the accomplishment of a general improvement necessitated compulsory regulation by the State authorities. To this end a system of examination and certification of stallions by Government veterinary officers was initiated in 1909; but it applies only to horses voluntarily submitted by owners for inspection. At first the horses examined were chiefly those submitted at shows held by agricultural and pastoral societies, but arrangements were subsequently made to hold parades at numerous centres throughout the State. Examination at such shows, except in the case of the annual exhibition held in Sydney by the Royal Agricultural Society, has been discontinued for several years.

Lists have been published giving the names of stallions for which certificates for life have been issued to the end of 1913, and include particulars respecting 862 draughts, 477 thoroughbreds, 386 trotters, 157 lights, and 548 ponies.

The scheme had been in operation but for a short period when the great War convulsed all conditions of order and progress, and it is not, therefore, possible to foreshadow its ultimate effect on the industry. But it had already brought about some desirable results, such as depreciation in selling value of uncertificated stallions and corresponding increase in value of certificated; greater care in selection of animals for importation; and the practical education of owners with regard to various forms of unsoundness. Moreover, it prevented unsound horses from being exhibited, and ensured breeders, if they demanded the production of the certificate at the time of service, as to the status of sires. By means of the examinations the veterinary officers were enabled to collect accurate information which would have proved useful as a basis of future measures in connection with horse-breeding.

It was found, however, that horses rejected for certificate were not prevented from doing stud-work, and that many stallions had not been presented for examination.

During the year ended 30th June, 1915, the number of stallions examined for certificates was 1,019, and of these 380, or 37 $\frac{1}{4}$ per cent., were rejected, the principal causes, amounting to 25 per cent., being deficiency in type, breeding, and conformation. The examinations for 1914-15 were carried out in a number of cases, but during 1915-16 they were practically abandoned.

The results of applications for certificates for the year ended 30th June, 1915, with the number of examinations and rejections of stallions as shown in classes, were as follow :—

Class.	Examined.	Rejected.	
		Number.	Per cent.
Draught ...	561	221	39.4
Light ...	261	98	37.5
Ponies ...	197	61	31.0
Total ...	1,019	380	37.3

The temporary discontinuance of veterinary examinations throughout the State was due to the departure of many veterinary officers of the Stock Branch on military service abroad, towards the end of 1914, and since that date. The examinations of stallions for Government certificates, which have been carried out during the duration of the war, were limited to a few horses brought to the Stock Office in Sydney, and to those exhibited at the Royal Agricultural Society's annual Easter show. The latter have been conducted by the honorary veterinary officers of the Society, and an arrangement was made that any horses that passed such an examination should be eligible for the bestowal of the Government certificate.

The system of submitting stallions heretofore detailed is purely voluntary, and cannot therefore be regarded as satisfactory. There is, moreover, no means of prohibiting rejected animals from the performance of stud duty. To surmount these objections a Stallion Examination Bill has been prepared, which will make it compulsory for all horses coming under this definition to be submitted to the prescribed examination, annual licenses being issued for those passing the tests, and undesirable animals being debarred from further stud service. Similar legislation is being contemplated in the other States of the Commonwealth, and in the Dominion of New Zealand.

LIVE STOCK IN PRINCIPAL COUNTRIES.

A comparison of the numbers of horses, cattle, sheep and swine in New South Wales and other countries is afforded by the subjoined table, the figures being the latest available.

Country.	Horses.	Asses and Mules.	Cattle.	Sheep.	Goats.	Swine.
Australia—						
New South Wales	719,542	338	2,405,770	*35,000,000	36,489	281,158
Victoria ...	514,403	133	1,175,098	12,576,587	127,939	254,436
Queensland ...	697,517	1,047	4,765,657	15,524,293	124,107	129,733
South Australia	257,422	4,452	288,887	5,091,282	9,542	118,542
Northern Territory ...	21,674	264	420,362	47,520	11,272	500
Western Australia ...	169,730	5,642	863,930	5,529,960	31,387	90,756
Tasmania ...	42,620	.....	179,360	1,702,579	.....	53,033
Total ...	2,422,908	.....	10,099,064	75,472,221	.....	928,158

* Estimated, 1916-17. † Census, 1901.

LIVE STOCK IN PRINCIPAL COUNTRIES—*continued.*

Country.	Horses.	Asses and Mules.	Cattle.	Sheep.	Goats.	Swine.
New Zealand ...	367,167	.....	2,502,700	24,753,324	.....	278,186
United Kingdom ...	2,108,445	.....	12,451,540	28,849,655	.....	3,615,891
England and Wales ...	1,359,566	.....	6,215,781	17,951,123	.....	2,167,941
British Indies ...	1,564,935	1,454,973	120,658,081	23,280,662	30,900,309	.....
Argentina ...	9,929,000	.....	30,000,000	80,000,000	4,564,000	3,200,000
Austria ...	1,802,848	73,408	9,160,009	2,428,101	1,256,778	6,432,080
Belgium ...	267,160	.....	1,894,484	.....*	.....	1,412,293
Brazil ...	7,289,000	3,208,000	30,705,000	10,653,000	10,049,000	18,399,000
Bulgaria ...	538,271	136,027	2,172,405	8,130,997	1,384,116	465,333
Canada ...	3,035,254	.....	5,967,722	2,009,717	.....	2,513,526
Ceylon ...	4,815	.....	1,465,380	90,394	195,155	86,548
Chile ...	420,786	70,226	1,760,272	4,168,572	273,218	165,673
Denmark ...	515,415	.....	2,289,996	533,034	.....	1,983,255
Egypt ...	34,403	543,447	492,650	687,696	263,200	8,580
France ...	2,317,205	419,528	12,723,946	12,079,211	.....	4,448,366
Germany ...	3,341,624	.....	20,316,948	5,073,478	3,438,296	17,287,211
Holland ...	334,445	.....	2,096,599	842,018	232,478	1,350,204
Hungary ...	2,351,481	.....	7,319,121	8,548,204	426,981	7,580,446
Italy ...	906,820	1,235,180	6,218,227	11,162,926	2,714,878	2,507,798
Japan ...	1,581,743	.....	1,399,498	3,308	101,475	308,970
Mexico ...	859,217	622,426	5,142,457	3,424,430	4,206,011	616,139
Norway ...	172,468	.....	1,094,101	1,393,488	296,442	318,556
Roumania ...	864,324	7,701	2,588,526	5,655,444	232,515	1,709,205
Russia in Asia ...	9,309,528	.....	13,348,888	†31,330,600	.....	1,564,055
Russia in Europe ...	23,860,178	.....	35,547,348	†42,735,576	.....	11,944,568
Russia—Finland ...	296,136	.....	1,573,163	1,309,186	12,654	418,500
Spain ...	488,715	1,752,632	3,070,903	16,012,277	3,207,360	2,814,465
Sweden ...	701,099	.....	2,913,159	1,198,369	131,788	1,065,396
Switzerland ...	136,613	4,348	1,615,645	171,635	358,093	544,021
Tunis ...	30,963	99,209	239,989	1,147,910	521,912	10,252
Union of South Africa ...	719,414	.....	5,796,949	30,656,659	.....	1,081,600
United States of America ...	21,126,000	4,639,000	63,617,000	48,483,000	.....	67,453,000
Uruguay ...	556,307	17,671	8,192,602	26,286,296	19,951	180,099

* Not available.

† Includes goats.

Of foreign countries and British Dominions oversea, the statistics relating to the United States of America and to Canada are for the year 1917; those relating to Great Britain and Ireland, to England and Wales, to France, Spain, Denmark, Sweden, Switzerland, Egypt and Tunis for the year 1916; those relating to Germany for the year 1915; and those relating to the Argentine for the year 1914. All other statistics relating to foreign countries and oversea British Dominions are for pre-war years. The German and French statistics are issued under the authority of their respective governments, but those of the Empire must be received with caution. Goats are included as constituting important dairy herds in some countries, and mules and asses have to bear a large proportion of the work of traction and transport in others.

GOATS AND OTHER LIVE STOCK.

The number of goats in New South Wales in June, 1916, was 36,489, including 7,191 Angora goats. Angora goats are valued by pastoralists chiefly as effective scrub exterminators, although the dry climate of the western districts is eminently suited to the production of fine mohair. The mohair industry is yet in its infancy, but a shipment from this State, which was sold in London in November, 1910, realised 12½d. per lb.

Camels are used as carriers on the Western Plains, the number in June, 1916, being 2,167, compared with 1,792 at the close of the year 1913.

Donkeys and mules are not extensively used in New South Wales, the numbers in 1916 being 143 of the former and 195 of the latter. It is claimed that mules have many points of advantage over horses for farm work, especially in areas of limited rainfall—for instance, longer period of utility, smaller cost of maintenance, greater adaptability to untoward conditions of labour, and comparative freedom from disease. Mule breeding should, moreover, prove profitable, as there is generally a good demand for them in the world's markets.

Ostrich farming is successfully conducted in New South Wales, though not on an extensive scale. The number of ostriches at the end of June, 1916, was 606, as compared with 662 at the close of the year 1913. The climate of certain portions of the State is considered specially suited to ostrich farming, and the industry would have a profitable future if the fashion for wearing the plumes came again into vogue.

WATERING-PLACES FOR STOCK.

Watering-places are established on all the main stock routes of the State, and include tanks, dams, wells and artesian bores. At the 30th June, 1917, there were 763 public watering-places, viz., 573 tanks and dams or reservoirs, 116 wells, and 74 artesian bores. Except at dams and reservoirs of large extent and capacity, stock are watered at troughs filled by means of service reservoirs, into which the supply is raised by steam, horse, or wind power. Water is usually drawn from the wells by whims and self-acting buckets.

PASTURES PROTECTION DISTRICTS.

New South Wales is divided into sixty-seven Pastures Protection Districts, which are in charge of sixty Inspectors of Stock.

The number of horses, cattle, and sheep travelling the various stock routes during the year ended June, 1917, was :—Horses, 107,779; cattle, 1,945,679; sheep, 32,940,764. There were 29,318 examinations made by the Inspectors of Stock, at which 82,749 horses, 1,293,067 cattle, and 15,452,413 sheep were passed in review, and 31,223 permits and 362 renewed permits were issued.

SHEEP BRANDS AND MARKS.

Under the Pastures Protection Act, 1912, provision is made for the branding of all sheep above the age of six months, and such sheep must be kept legibly branded with an "owner's brand," which has been duly recorded. Only one fire brand and one paint or tar "owner's brand," and one owner's ear-mark are allotted to each sheep-owner for every run held by him.

During the year 1916-17 the number of sheep brands and ear-marks recorded and transferred were as follow :—

	Recorded.	Transferred.	Total Registered.
Fire Brands	71	33	104
Tar Brands	1,501	181	1,682
Ear Marks	1,352	172	1,524
Total	2,924	386	3,310

HORSE AND CATTLE BRANDS.

The number of horse and cattle brands registered up to the 30th June, 1917, was 129,231. The number of brands registered during the year was :—Horse brands (alone), 668; cattle brands (alone), 530; horse and cattle brands, 2,721; and camel brands, 8; making a total of 3,927. The brands are registered under the provisions of the Stock Act, 1901.

PRICES OF STOCK.

The following table exhibits the prices of fat stock for 1916. To the fluctuations of supply and demand, to difference of quality, and in the case of sheep, to woolly or shorn skins, the considerable variations enumerated hereunder are to be assigned. The months during which maximum and minimum average prices prevailed are also shown.

Class of Stock.	Highest Price.		Lowest Price.	
	£ s. d.	Month.	£ s. d.	Month.
Fat Stock—				
Bullocks and Steers—				
Extra Prime Weighty ...	27 17 0	February	21 7 0	December.
Prime Medium Weight, and Weighty ...	25 10 0	January	17 4 0	December.
Prime Handy Weights ...	21 13 0	January	15 12 0	December.
Prime Light ...	18 8 0	January	15 11 0	December.
Good Weighty and Good	15 10 0	January	13 10 0	November.
Cows—				
Extra Prime ...	19 0 0	Feb. and Mar.	16 0 0	October.
Prime ...	16 2 0	March 4 4 4	13 12 0	June.
Good ...	13 14 0	September	10 11 0	May and June.
Medium ...	10 2 0	June	8 4 0	April.
Sheep—				
Merinos—				
Wethers and Hoggets—				
Extra Prime ...	2 4 0	September	1 8 6	January.
Prime ...	1 17 0	July	1 5 3	January.
Good ...	1 12 3	July	1 0 9	January.
Medium ...	1 8 9	September	0 16 0	January.
Ewes—				
Extra Prime ...	1 16 0	August	1 6 0	January.
Prime ...	1 13 6	July	1 2 3	January.
Good ...	1 8 9	July	0 18 3	January.
Medium ...	1 3 3	August	0 13 6	January.
Crossbreds—				
Wethers and Hoggets—				
Extra Prime ...	2 6 6	July	1 11 0	January.
Prime ...	2 0 3	July	1 6 9	January.
Good ...	1 12 9	June	1 2 3	January.
Medium ...	1 6 9	July	0 17 6	January.
Ewes—				
Extra Prime ...	2 1 3	July	1 8 9	January.
Prime ...	1 17 0	July	1 5 3	January.
Good ...	1 13 0	July	1 1 0	January.
Medium ...	1 8 0	September	0 16 3	January.
Lambs—Suckers and Woolly—				
Extra Prime ...	1 11 6	April and July	1 3 6	January.
Prime ...	1 8 9	June	1 0 0	January.
Good ...	1 5 6	June	0 17 9	January.
Medium ...	0 19 6	July	0 14 0	Feb. and March.

The prices of general live stock, inclusive of equine and dairy stock, swine, goats, and animals of draught and traction, for 1916 were as follows :—

Class of Stock.	Estimated fair average Price.	Class of Stock.	Estimated fair average Price.
Horses—	£ s. d.	Pigs—	£ s. d.
Draught—Extra Heavy ...	22 10 0	Baconers—Best ...	5 6 9
Medium ...	16 0 0	Good ...	4 15 6
Light ...	12 0 0	Medium ...	4 3 3
Saddle and Harness ...	8 0 0	Prime Light ...	3 14 9
Working Bullocks—Best ...	14 0 0	Light ...	3 10 9
Other ...	11 0 0	Backfatters—Best ...	7 19 6
Dairy Cattle—		Good ...	6 17 0
Milkers—Best ...	18 0 0	Medium ...	5 7 6
Good ...	15 0 0	Prime Light ...	4 14 6
Inferior ...	9 0 0	Light ...	4 2 3
Springers—Best ...	12 0 0	Suckers ...	1 1 0
Other ...	8 0 0	Stores... ...	1 13 0
Pigs—		Goats—Angora ...	4 0 0
Porkers—Best ...	3 6 9	Other ...	0 15 0
Good ...	2 19 0	Camels ...	30 0 0
Medium ...	2 8 0	Mules ...	27 10 0
Prime Light ...	1 14 9	Donkeys—Jacks (for breeding)	55 0 0
Light ...	1 12 6	Jennies ...	35 0 0

With regard to equine stock, the average maximum price was £33 for extra heavy draught horses, and the minimum £5 for saddle and harness horses. With fat cattle, £26 7s. 6d. was the average maximum for extra prime bullocks, and the minimum for extra prime cows £16 8s. Working bullocks ranged from £10 to £16. For dairy cattle the maximum for best milkers was £25, and the minimum for good milkers, £12. Pigs brought prices ranging from £8 4s. for backfatters to £1 8s. for light porkers. The maximum price of Angora goats was £6 6s.; of camels, £35; and of donkeys, £60.

VALUE OF PASTORAL PRODUCTION.

The grazing industry long constituted the greatest source of wealth in New South Wales, and information relating to pastoral returns and income is therefore of compelling interest. Unfortunately it is not possible to ascertain with precision the value of holdings occupied for pastoral purposes alone, nor can the worth of the improvements be estimated. Returns collected in respect of all land used other than for residential or business purposes, show that the fair market value of 52,988,070 acres of alienated land at the end of 1911 was estimated at £129,577,500, the improvements thereon

being valued at £77,114,200. The latter included the value of buildings, tanks, and dams, fencing, ringbarking, clearing, &c. On 120,546,052 acres of Crown lands similarly occupied the approximate value of the improvements was set down at £14,775,000.

It is difficult, from the nature of the industry, to estimate the return from pastoral pursuits as at the base of production; but taking the Sydney prices as a standard, and making due allowance for incidental charges, such as agistment, railway carriage or freight, and commission, the value during the season 1915-16 would appear as £21,576,000. The returns received from the different kinds of stock during the years 1891-1916 are shown in the following table.

Year.	Annual Value of Pastoral Production.					
	Sheep for Food.	Wool.	Cattle.	Horses.	Total.	Per Head of Population.
	£	£	£	£	£	£ s. d.
1891	2,367,000	9,996,000	1,535,000	827,000	14,725,000	12 17 10
1896	1,745,000	8,619,000	990,000	420,000	11,774,000	9 5 4
1901	2,071,000	8,425,000	1,374,000	682,000	12,552,000	9 3 8
1906	3,514,000	13,792,000	1,592,000	845,000	19,743,000	13 6 0
1911	2,811,000	12,933,000	1,689,000	2,001,000	19,434,000	11 13 6
1912	3,127,000	12,497,000	1,754,000	2,062,000	19,440,000	11 3 8
1913	2,885,000	13,620,000	2,041,000	2,192,000	20,738,000	11 9 3
1914-15	3,004,000	11,250,000	2,498,000	2,096,000	18,848,000	10 2 3
1915-16	4,295,000	11,380,000	3,729,000	2,172,000	21,576,000	11 10 10

The following table, showing the price-level in each year since 1908 as compared with that of 1901, clearly illustrates the extent of variation in values of pastoral production for a period including three quinquenniums. The figures are calculated on the average prices of exports to the United Kingdom free on board at Sydney. The prices of 1901, represented by the number 1,000, are taken as a basis.

Article.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.
Wool—greasy ...	1,272	1,200	1,266	1,200	1,200	1,300	1,227	1,317	1,733
„ scoured ...	1,258	1,245	1,188	1,132	1,151	1,283	1,208	1,217	1,572
Tallow ...	1,176	1,135	1,250	1,188	1,215	1,261	1,181	1,351	1,519
Leather ...	1,017	972	1,100	1,133	1,161	1,333	1,592	1,670	1,843
Frozen Beef ...	1,008	1,250	1,250	1,375	1,375	1,625	1,834	2,750	3,250
„ Mutton ...	1,021	1,063	1,250	1,250	1,500	1,500	1,792	2,188	2,833
Skins—Hides ...	1,053	950	1,100	1,113	1,204	1,467	1,404	1,600	1,463
„ Sheep, with wool	1,175	1,279	1,311	1,164	1,299	1,499	1,371	1,392	1,692
All articles as above...	1,122	1,137	1,214	1,194	1,263	1,408	1,451	1,686	1,988

PASTORAL IMPLEMENTS AND MACHINERY.

A list of the implements and machinery in use on pastoral holdings appeared in a previous issue of this Year Book. The aggregate value of the implements and machinery at the 30th June, 1916, was £2,015,048.

Shearing machines have been installed on all the large holdings devoted to wool-growing. In addition to shearing their own sheep, owners of machines often contract for the treatment of small flocks in the vicinity. The carts and waggons used on all rural holdings are included with farming machinery, as stated in the chapter on Agriculture, in which a comparative table of the value of farming, dairying, and pastoral machinery was also shown.

MEAT SUPPLY.

The slaughter of live stock for food is permitted only in places licensed for the purpose. Of such establishments there are in the metropolis 48, and in the country districts 1,023, employing respectively 414 and 3,308 men; in all, 1,071 establishments and 3,722 men employed therein.

The following table shows the number of stock slaughtered during the year ended 30th June, 1916 :—

Stock.			Metropolis.	Country.	Total.
Sheep	...	...	1,450,337	2,365,140	3,815,477
Lambs	...	...	63,368	298,463	361,831
Bullocks, &c.	...	...	70,697	117,185	187,882
Cows	...	...	40,838	124,296	165,134
Calves	...	...	20,573	11,413	31,986
Swine	...	...	72,109	147,697	219,806

These figures represent the stock killed for all purposes. Of the sheep and lambs, 3,358,469, including 1,073,443 killed on stations and farms, represent the local consumption; 76,008 sheep were required by meat-preserving establishments; 735,221 for freezing for export; and 7,610 were boiled down for tallow. All the cattle killed, except the equivalent of 11,466 carcasses treated in the meat-preserving works, 7,029 (including 453 calves) exported frozen, and 2,565 condemned and boiled down, were required for local consumption.

The following table shows the stock slaughtered in the various establishments for ten years.

Year.	Establishments.	Employees.	Stock Slaughtered.					
			Sheep.	Lambs.	Bullocks. †	Cows.	Calves.	Swine.
1905	1,568	4,570	3,959,577	324,054	236,306	64,838	19,713	289,096
1906	1,522	4,391	4,229,407	252,648	237,722	94,955	26,200	281,650
1907	1,352	4,553	4,882,206	302,851	242,261	109,263	28,518	238,488
1908	1,216	4,056	4,840,367	361,125	233,066	114,689	28,879	210,318
1909	1,240	5,293	5,959,985	430,501	243,150	128,705	40,021	202,303
1910	1,232	4,328	7,032,102	448,932	275,497	156,110	52,340	290,328
1911	1,237	4,343	6,146,739	400,186	306,773	182,178	59,969	316,331
1912	1,271	4,294	5,387,578	424,604	329,133	206,228	77,679	352,178
1913	1,275	4,647	5,909,177	516,398	365,905	236,081	78,191	280,673
1914*	1,123	4,246	2,831,280	273,383	171,704	121,521	35,862	135,370
1915†	1,219	4,657	5,814,171§	576,094	319,778	250,210	65,350	262,704
1916†	1,071	3,722	3,815,956	361,831	187,912	165,134	31,986	219,806

* Six months ended 30th June.

† Year ended 30th June.

‡ Includes a small number of Bulls.

§ Amended since last issue.

The stock for the supply of meat for Sydney and suburbs is for the most part sold at the Flemington saleyards, near Sydney, and slaughtered in abattoirs at Glebe Island. Animals sold at Flemington are inspected *ante mortem*, and any found diseased are declared unfit for food and destroyed, while "doubtful" beasts are marked for further special attention at the abattoirs. At Glebe Island the *post-mortem* inspection is conducted by a Chief Inspector and twelve assistants, and there are twenty-five inspectors

stationed at private slaughtering premises, at canning works and at cold stores. The operations of these officers are supervised by the Veterinary Inspector in charge of export meat, but all inspectors have authority to condemn meat which, from any cause, is unwholesome or unfit for food.

The carcase meat for food is conveyed from the slaughtering premises in covered louvered vans for distribution to retail shops, which are regulated by the municipal authorities.

The particulars of operations at Glebe Island abattoirs during the years ended 30th June, 1915, and 1916 are shown in the following statement :—

Animals.	Year ended 30th June, 1915.			Year ended 30th June, 1916.		
	Slaughtered.	Condemned.		Slaughtered.	Condemned.	
		Number.	Per cent.		Number.	Per cent.
Bulls	5,078	327	6·44	2,506	143	5·70
Bullocks	108,883	826	0·76	62,156	357	0·57
Cows	81,067	2,208	2·72	36,132	830	2·30
Calves	48,148	1,106	2·30	19,137	980	5·12
Sheep and Lambs	2,116,844	206	0·01	1,309,810	338	0·03
Pigs	65,718	718	1·09	64,884	777	1·20

In order to cope with the expanding requirements of the meat trade, new abattoirs have been constructed at Homebush Bay, where facilities are provided both for railway and steamer traffic. The animals slaughtered during the year ended 30th June, 1916, comprised 146,127 sheep and lambs, 86,175 large cattle, 30,630 calves, and 71,254 pigs.

The average prices of the best beef during 1915 ranged from 35s. 6d. per 100 lb. in March to 78s. 6d. in August, and during 1916 from 63s. in March to 53s. 9d. in July.

MEAT EXPORT TRADE.

The subjoined table shows the growth of the oversea export trade in New South Wales beef and mutton since 1904. The export of frozen meat varies necessarily with the seasons. It has been proved that a great expanse of country is suited to the breeding of large-carcase sheep, and pastoralists have lately turned their attention therefore in this direction with a view to securing a greater share in the meat trade of the oversea countries.

Year.	Frozen or Chilled.				Preserved.	
	Beef.	Mutton and Lamb.	Total Weight.	Total Value.	Weight.	Value.
	cwt.	cwt.	cwt.	£	lb.	£
1904	3,721	202,135	205,856	280,899	4,751,029	70,770
1905	18,470	434,940	453,410	599,892	6,919,561	128,054
1906	32,640	455,165	487,805	579,294	3,121,933	62,307
1907	18,905	498,551	517,456	639,253	4,569,718	81,303
1908	6,473	398,594	405,067	535,473	5,756,395	105,702
1909	9,127	503,249	512,376	563,489	11,734,019	202,499
1910	74,868	810,175	885,043	1,101,247	16,492,876	288,341
1911	65,097	535,259	600,356	758,155	20,783,779	401,384
1912	70,516	375,338	445,854	653,801	15,556,834	310,192
1913	162,255	798,748	961,003	1,463,812	25,881,867	574,870
1914*	142,912	217,444	360,356	583,783	10,797,366	276,294
1914-15†	210,950	861,103	1,072,053	2,087,527	24,989,699	924,510
1915-16†	7,000	236,099	243,099	562,262	4,087,618	159,711

* Six months—January to June.

† Year ended 30th June.

In the foregoing table ships' stores, amounting annually to several millions of pounds in weight, are not included, the tabulation being expressly concerned with exports of meat destined for oversea markets.

There was, prior to the War, an encouraging development in the meat export trade, and the prospects of its establishment on a stable foundation appeared highly favourable. European countries were gradually opening their ports to frozen meat, and the trade in the East was increasing. The War not only closed many markets, but through the tremendously augmented value of freight-space it seriously hampered exports. With the restoration of peace the trade may, however, be expected to experience a great revival, because the demand for foodstuffs will be insistent for a long period after the termination of hostilities. It is worthy of remark that the industry had been sufficiently long in existence for the formulation of maxims and regulations for its successful conduct. It was found that in order to establish a high reputation for this product it was necessary for exporters to exercise the greatest care in preparation and transport. Stringent regulations were issued by the Department of Trade and Customs regarding inspection and shipment, which work was carried out for the Commonwealth authorities by the Meat Export Branch of the Department of Public Health. All stock killed for export were examined in a manner similar to that for local consumption, and carcasses were re-examined immediately before shipment, after having been in cold storage. In all the large modern steamers visiting the ports of New South Wales, accommodation had been provided for this class of trade.

There were at least seventy-three steamers permanently engaged at 31st December, 1915, in the frozen-meat trade between Australia and the United Kingdom, but owing to military and transport requirements a considerable number has been withdrawn from this service since the War. These steamers were fitted with refrigerating machinery, and had an approximate carrying capacity of three and a half million carcasses.

The following statement, compiled from the British trade returns, shows the imports of frozen mutton into the United Kingdom during the last ten years, for which information is available, and also the quantity imported from New South Wales.

Year.	Total Imports.		Imports into the United Kingdom from New South Wales.	
	Quantity.	Value.	Quantity.	Value.
	cwt.	£	cwt.	£
1906	4,082,756	7,645,935	341,963	609,275
1907	4,578,523	8,687,407	391,500	723,148
1908	4,385,771	8,140,029	315,998	564,326
1909	4,761,838	7,839,195	448,011	715,764
1910	5,405,923	9,802,858	776,084	1,261,173
1911	5,330,070	9,576,446	612,620	1,000,556
1912	5,021,529	9,698,783	342,422	591,513
1913	5,330,290	10,907,992	695,955	1,285,397
1914	5,199,731	11,410,310	603,435	1,245,185
1915	4,707,859	13,872,141	550,820	1,470,165

Since the outbreak of the War, the operations of the frozen-meat trade in the United Kingdom have been abnormal, as practically the whole trade was taken out of commercial hands and placed under official control. In this way the British Government was able to deal effectively with the shipping and other difficulties interrupting the maintenance of supplies, a policy of continuous administration which would have been altogether impossible under the control of private traders. The importations into the United Kingdom during 1914 and 1915 were less than formerly, but large quantities of frozen meat were diverted to the continent of Europe and elsewhere for the use of the British forces engaged in the different theatres of the War.

The subjoined statement shows the average wholesale prices obtained during the past ten years for Scottish and frozen mutton sold in London. From an examination of the figures, it would seem that the class of people requiring locally-grown mutton in England is quite distinct from that using frozen mutton.

Year.	Best Scottish.	New Zealand.	Aus- tralian.	River Plate.	Year.	Best Scottish.	New Zealand.	Aus- tralian.	River Plate.
	d.	d.	d.	d.		d.	d.	d.	d.
1906	7 $\frac{7}{8}$	4	3 $\frac{3}{8}$	3 $\frac{1}{2}$	1912	7 $\frac{5}{8}$	4 $\frac{3}{8}$	3 $\frac{3}{4}$	3 $\frac{7}{8}$
1907	7 $\frac{7}{8}$	4 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	1913	7 $\frac{7}{8}$	4 $\frac{3}{8}$	4	4 $\frac{1}{2}$
1908	7 $\frac{3}{4}$	4 $\frac{1}{4}$	3 $\frac{1}{4}$	3 $\frac{1}{2}$	1914	8 $\frac{1}{2}$	5 $\frac{1}{8}$	4 $\frac{1}{2}$	4 $\frac{3}{8}$
1909	6 $\frac{3}{8}$	3 $\frac{1}{2}$	3	3 $\frac{1}{8}$	1915	9 $\frac{3}{8}$	6 $\frac{3}{8}$	5 $\frac{3}{4}$	6 $\frac{1}{4}$
1910	7 $\frac{1}{2}$	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{3}{8}$	1916	12 $\frac{1}{8}$	8 $\frac{1}{2}$	7 $\frac{7}{8}$	9
1911	6 $\frac{7}{8}$	4 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$					

The frozen beef imported into England from New South Wales in 1915 amounted to 233,694 cwt., valued at £654,883; in 1914-15 it amounted to 150,531 cwt., valued at £292,607. The value of rabbits imported was £602,117, while preserved meat, other than salted, was valued at £688,680.

OTHER PASTORAL PRODUCTS AND BY-PRODUCTS.

The minor products accruing from pastoral occupations include tallow, lard and fat, skins and hides, furs, hoofs, horns, bones, bone-dust, glue pieces and hair. Some of these are more specially discussed in the chapter relating to the Manufacturing Industry, and will be given only brief mention here.

The following return shows the quantity of tallow produced, locally consumed, and exported each year since 1906 :—

Year.	Estimated Quantity of Tallow.		
	Produced.	Locally consumed.	Exported.
	tons.	tons.	tons.
1906	24,391	5,837	18,554
1907	24,527	5,788	18,739
1908	21,031	5,881	15,150
1909	32,006	5,810	26,196
1910	37,110	5,923	31,187
1911	36,467	6,187	30,280
1912	28,425	6,580	21,845
1913	39,751	7,179	32,572
1914*	17,434	3,699	13,735
1915†	35,593	8,257	27,336
1916†	13,648	7,386	6,262

* Six months—January to June.

† Year ended 30th June.

Prior to the War the overseas exports of skins and hides from New South Wales were of considerable value, and showed a large increase since 1901, although there has been a marked decline during the year 1915-16. The other products of the pastoral industry are of minor importance, and leather, valued at £538,000 during the year ended June, 1916, is classified as a product of the manufacturing industry.

The following table shows the value of pastoral products exported overseas during the quinquennial years 1901, 1906, and 1911, and during the twelve months ended June, 1916.

Products.	Value of Oversea Exports.			
	1901.	1906.	1911.	1915-1916.
	£	£	£	£
Skins and Hides—				
Cattle	86,017	84,893	292,193	374,796
Horse	170	428	790	706
Rabbit and hare	9,379	293,260	295,476	210,935
Sheep	151,144	314,722	260,007	448,055
Other	184,522	140,050	296,672	272,622
	431,232	833,353	1,145,138	1,307,114
Hoofs, horns, and bones ...	13,765	14,673	15,390	9,481
Bone-dust... ..	14,848	13,817	33,280	22,563
Hair	9,833	13,524	16,503	12,666
Lard and animal fats	312	2,557	4,841	3,138
Tallow	362,631	461,540	871,018	227,317
Glue-pieces and sinews	6,020	8,103	8,781	6,135
Furs	767	1,540	117	.....
Total	839,408	1,349,107	2,095,068	1,588,414

CATTLE AND SHEEP DOGS.

The assistance of well-trained dogs is of great importance in the successful handling of sheep and cattle in large numbers, and much attention has been directed in New South Wales towards breeding dogs possessing the speed, the endurance, and the intelligence necessary for this special work. The merlin or blue heeler, the Welsh heeler or merle, the red and the black bob-tails may be particularly mentioned as selected types of cattle dogs suited to expert herding and high in favour with drovers.

The merlin, or blue heeler, is a variety founded by crossing the blue-grey Welsh merle with the Australian dingo, and by careful breeding and selection a distinct type has been established.

The classes of sheep dogs most sought after are the barbs and the kelpies, and the smooth-haired collies. Numerous cattle and sheep dogs of non-descript types are used, some of which have proved very useful, but owing to their doubtful origins are not considered satisfactory for breeding purposes.

Under the Dog and Goat Act of 1898 all dogs must be registered, the annual fee being 2s. 6d. each, and no exemption is granted for cattle and sheep dogs.

NOXIOUS ANIMALS.

The only large carnivorous animals dangerous to stock in Australia are dingoes or so-called native dogs, and foxes; but graminivorous animals, such as kangaroos, wallabies, hares, and rabbits, particularly the last-named, are deemed by the settlers even more noxious.

The estimated losses in sheep by native or other dogs and foxes during the three years ended 30th June, 1917, were as follow :—

Destructive Agents	Losses in Sheep.					
	Number.			Value.		
	1915.	1916.	1917.	1915.	1916.	1917.
Native Dogs	70,628	42,815	52,346	£ 45,440	£ 47,975	£ 59,900
Tame Dogs	22,544	13,572	11,383	16,457	12,925	13,358
Foxes	68,395	75,772	116,825	30,311	44,670	99,189
Total	161,567	132,159	180,554	92,208	105,570	172,447

Rabbits, which are the greatest pests to the pastoralists, first found their way into this State from Victoria, where some had been liberated about fifty years ago in the Geelong District. Their presence first attracted serious attention in 1881, when complaints were heard in the south-west portion of New South Wales of considerable damage. They multiplied so rapidly, that, in 1882, they were to be met on most of the holdings having frontages on the Murray River. Attempts to cope with them under the Pastures and Stock Protection Act proved ineffectual, and the Rabbit Nuisance Act was passed, which provided for the compulsory destruction of rabbits by the occupiers of the land, who were to receive a subsidy from a fund raised by an annual tax upon stockowners, but the fund soon proved inadequate, and from the 1st May, 1883, to the 30th June, 1890, when the Act was repealed, it was supplemented by £503,786 from the Consolidated Revenue. The tax upon stockowners yielded £831,457, and landowners and occupiers contributed £207,864, so that the total cost during the whole period exceeded £1,543,000.

The Rabbit Act of 1890 repealed the 1883 Act, and also those provisions of the Pastures and Stock Protection Act relating to rabbits. It provided moreover, as occasion required, for the proclamation of land districts as "infested," and for the construction of rabbit-proof fences. From the 1st July, 1890, to the 30th April, 1902, the State expenditure under this Act was £41,620, nearly all of which was devoted to the erection of rabbit-proof netting. From May, 1902, to December, 1903, the expenditure amounted to £10,548.

Under the Pastures Protection Act of 1902 the State was divided into districts, the protection of the pastures being supervised by a board in each district elected by the stockowners. The pastures protection boards were empowered to levy a rate upon the stock, and to erect rabbit-proof fences on any land, to take measures to ensure the destruction of all noxious animals and to pay rewards for such destruction. The State expenditure on rabbit extermination since the establishment of the boards, consisted mainly of payments to the Railway Commissioners for the maintenance of rabbit-proof fences, and amounted to £11,914 to the end of June 1916.

Rabbit-proof Fencing.

In order to prevent the spread of this pastoral pest the Government has erected rabbit-proof fences at numerous places. The longest of these traverses the western side of the railway line from Bourke, *via* Blayney and

Murrumburrah, to Corowa, in the extreme south of the State, a distance of 612 miles; and the Railway Commissioners have undertaken the work of its maintenance. A fence extends from the Murray River northwards, 350 miles along the border between New South Wales and South Australia. On the Queensland border a fence has been erected between Barrington and the river Darling, at Bourke, 84 miles; another, built at the joint expense of the Governments of Queensland and New South Wales, extends from Mungindi to the Namoi River, about 115 miles. The total approximate length of rabbit-proof fences erected by the State up to the 30th June, 1916, was 1,332 miles, at a cost of £69,888; by private persons, 101,358 miles, at a cost of £6,034,681; and by pastures boards, 572 miles, at a cost of £25,361.

The chief means adopted for the destruction of rabbits are poisoning and trapping, but it has long been recognised that these methods are inadequate. In 1906 Dr. Danysz, an eminent French scientist, claimed the discovery of a disease fatal to rabbits and easily propagated amongst them, while proving harmless to other animals and to birds. A liberal offer was made by the pastoralists of the State for the introduction of this disease, and experiments were conducted under the supervision of a Government medical officer, who, in November, 1907, reported that although the microbe employed could be made to infect small animals, there was no reason to apprehend danger from its practical use; but the efficacy of the virus as a destroyer of rabbits had, nevertheless, not been demonstrated.

Bonuses are offered by the pastures protection boards for the destruction of noxious animals, and during the year ended the 30th June, 1916, the total amount paid as bonus was £7,866.

RABBITS AND HARES.

The following table shows the exports of frozen rabbits and hares, together with that of rabbit and hare skins, from New South Wales to countries outside Australia during the last ten years.

Year.	Value of Exports.		
	Frozen Rabbits and Hares.	Rabbit and Hare Skins.	Total.
	£	£	£
1907	301,115	209,754	510,869
1908	247,525	138,403	385,928
1909	329,020	159,904	488,924
1910	406,762	327,874	734,636
1911	330,741	295,476	626,217
1912	252,053	318,930	570,983
1913	373,633	310,501	684,134
1914*	124,932	70,657	195,589
1915†	393,179	155,411	548,590
1916†	607,711	210,935	818,646

* Six months—January to June. † Year ended 30th June.

Within the State also these animals now form a common article of diet, both in the metropolis and the country, especially during the winter months, when large numbers of men are engaged in their capture and treatment. The fur of rabbits and hares is used largely in the manufacture of hats.

CATTLE-TICK.

The regulations prohibiting and controlling the admission of stock entering this State from Queensland have been strictly enforced, the border being divided into four sections governed under different conditions. The fences are patrolled continuously and kept in good order, and the care of departmental dips and yards is efficiently maintained.

In order to obtain comprehensive information as to the methods of dealing with cattle-tick in the United States of America a Royal Commission was appointed in June, 1912, to visit that country, and its recommendations have since been adopted in New South Wales.

DAIRYING INDUSTRY.

DAIRY FARMING.

THE dairying industry is a very important factor in the wealth and prosperity of New South Wales. Although the first dairy farm for the manufacture of butter was established on the Nepean River, dairying as a profitable pursuit was in later years conducted mainly on the South Coast, in the Shoalhaven and Illawarra Districts, but at present the North Coast is the main source of supply. It was not until the introduction of the creamery and factory system that any great development occurred, and with the manufacture of butter by machinery, and the perfection of the cold-storage system, the business of dairying was re-established on a fresh basis.

The first creamery and factory were established in the South Coast Division of the State, and for some years dairying was confined mainly to this district; but it eventually became firmly established in the North Coast Division, especially on the Clarence and Richmond Rivers.

The following figures show the dairy production in each Division of the State during the season ended the 30th June, 1916:—

Division.	Average No. of Dairy Cows in Milk during year.	Total yield of Milk.	Butter made.	Cheese made.
	No.	gallons.	lb.	lb.
Coastal—				
North Coast	204,148	77,512,278	31,811,440	573,725
Hunter and Manning ...	98,756	39,952,986	13,623,957	151,893
County of Cumberland ...	17,546	9,062,920	509,724	7,615
South Coast	70,505	30,992,242	7,545,564	4,617,057
Total	390,955	157,520,426	53,490,685	5,350,290
Tableland—				
Northern	14,739	4,238,554	1,205,226	92,503
Central	11,020	3,805,379	974,840	152,480
Southern	7,990	2,934,689	764,993	20,804
Total	33,749	10,978,622	2,945,059	265,787
Western Declivity—				
North Western Slope ...	10,430	4,199,067	1,022,042	145,782
Central " "	4,510	1,629,918	297,382	.....
South " "	9,771	3,834,302	1,011,430	71,735
Total	24,711	9,663,287	2,330,854	217,517
Central Plains—				
North Central	1,587	593,265	36,489	.....
Central	3,886	1,363,761	172,704	.....
Total	5,473	1,957,026	209,193	.....
Riverina	8,971	3,480,948	627,858	146,042
Western Plains	1,185	413,691	27,894	.....
Total, New South Wales	465,044	184,014,000	59,631,543	5,979,636

Although dairying is confined mainly to the coastal regions, where grass is available for food throughout the year, it is also actively pursued in the more favoured parts of the hinterland for the purpose of supplying local wants, and in places remote from the metropolis well-equipped factories have been already established. In these localities the industry is conducted in conjunction with wheat-farming and sheep-breeding, and sufficient fodder to carry the cattle through the winter months is a prime requirement upon tillage.

The system of share-farming has been applied to dairying chiefly in the northern coastal districts. As a general rule, one party to the arrangement supplies the land and the stock, and the other conducts the farm-work.

During the 1915-16 season the area of dairy farms under this system was 91,329 acres, of which 7,661 acres were devoted mainly to the production of fodder crops, the balance of the area—83,668 acres—being used for grazing purposes. Of this area, 24,821 acres were in the Division of the North Coast, and 40,181 acres in the Hunter and Manning Division, the balance being distributed as follows:—The Division of the Western Declivity, 9,415 acres; the South Coast Division 10,413 acres; the Tableland Division, 1,690 acres; the Division of the Riverina, 4,169 acres; and the Division of the Central Plain, 640 acres.

Dairy share-farming was engaged in on 174 holdings on which 319 share-farmers and their families were employed.

Most of the native grasses of the State are particularly suitable for dairy cattle, as they possess milk-producing as well as fattening qualities. In the winter the natural herbage is supplemented by fodder, such as maize, barley, oats, rye, lucerne, and the brown variety of sorghum, or the planter's friend. Ensilage is also made for food, but not so generally as it should be, and the quantity made varies considerably in each year. The area of land devoted to sown grasses has been largely extended during recent years, and in June, 1916, it amounted to 1,247,099 acres. The produce of this land is used mainly as food for dairy cattle, and as the area is still below the present requirements, an extension of this form of cultivation may be anticipated.

The number of dairy cows in milk, and the area under sown grasses at the end of the year, together with the quantity of ensilage made in each district of the State during the season ended the 30th June, 1916, were as follow:—

Division.	Dairy Cows in Milk at 30th June, 1916.	Area of Land under Sown Grasses.	Ensilage made.
Coastal—	No.	acres.	tons.
North Coast	179,880	833,255	75
Hunter and Manning	88,266	168,026	490
County of Cumberland	18,293	3,991	1,300
South Coast	58,959	181,068	5,163
Total	345,398	1,186,340	7,028
Tableland—			
Northern	12,352	19,178	150
Central	11,911	7,430	570
Southern	7,612	1,990	80
Total	31,875	28,598	800
Western Declivity—			
North Western Slope	12,233	3,537	275
Central " "	5,826	1,624	540
South " "	10,818	15,986	4,973
Total	28,877	21,147	5,788
Central Plains—			
North	1,916	502	.....
Central	5,290	5,997	770
Total	7,206	6,499	770
Riverina	10,917	4,455	3,825
Western Plains	1,954	60	300
Total, New South Wales ...	426,227	1,247,099	18,511

YIELD OF MILK.

The number of dairy cows shows a considerable increase during the last decennium, and there has been a corresponding expansion in the milk supply, as shown in the following table; although there has been a general decrease in the number of animals, the yield, and the individual average in the figures of the year 1915-16, on those of its predecessors.

Year.	Dairy Cows in Milk at end of year.	Total Yield of Milk.	Average Yield of Milk per Cow.
	No.	gallons.	gallons.
1905	442,950	162,919,000	368
1906	494,820	185,941,000	376
1907	506,395	183,303,000	362
1908	527,843	188,519,000	357
1909	566,378	201,183,000	355
1910	632,786	235,578,000	372
1911	638,525	237,623,000	372
1912	620,730	225,446,000	363
1913	600,420	231,592,000	386
1914-15	513,420*	237,930,000	442
1915-16	465,044*	184,014,000	396

* Estimated average number in milk during season.

It is more accurate to base the average yield on the mean number of cows in milk during the year, and for the last two seasons attempts were made to obtain this information. The efforts were not entirely successful, and even under normal conditions much difficulty would be experienced, as the number depends not only on the actual cows milked, but also on the length of time during which they are in milk.

The dry dairy cows on the 30th June, 1916, numbered 317,368, as compared with 344,247 twelve months earlier, and 189,769 at the end of 1913. During the past two seasons dairying operations have been restricted considerably owing to the dryness of the seasons, especially during the first half of 1916; and large numbers of dry dairy cattle have been fattened and sold for beef. Under normal conditions an average yield of about 450 gallons is probably a fairly accurate estimate of the milking capabilities of local dairy cattle. The average yield during the season 1914-15 very nearly reached this figure, but as the seasonal conditions during 1915-16 were less favourable, the average yield of milk per cow fell to 396 gallons, but even then, it compares favourably with that obtained in all other years prior to 1914-15.

Almost as important as the average yield of milk is the percentage of butter-fat, and it is satisfactory to note that this has been well maintained

throughout the period reviewed in the following table, which shows the quantity of butter made per 100 gallons of milk treated on farms and in factories.

Year.	Quantity of Butter per 100 gallons of Milk treated.		
	On Farms.	In Factories.	On Farms and in Factories.
	lb.	lb.	lb.
1905	34.0	41.5	40.7
1906	32.0	38.0	37.8
1907	32.4	39.8	39.2
1908	33.6	40.2	39.6
1909	33.2	38.7	38.2
1910	32.5	39.8	39.2
1911	33.0	42.9	42.2
1912	33.1	42.4	41.8
1913	33.6	42.5	41.9
1914-15	33.8	44.3	43.7
1915-16	38.9	43.5	42.6

The decreased proportion of butter-fat in 1906 and 1909 was due to unfavourable seasons in parts of the coastal dairying districts. During the winter and spring months of the year 1910 the South Coast districts were affected by the abnormally low rainfall.

The following statement shows the purposes for which the milk produced in 1913 and during the year ended 30th June, 1916, was treated.

Purpose for which treated.	1913.	1915-16.
	gallons.	gallons.
Used on farms for making butter	13,484,060	12,648,796
" " " cheese	3,244,531	2,057,684
Separated on farms, cream being sent to factories	171,136,221	126,762,050
Sent to butter factories or separating stations for butter	1,109,094	505,406
Sent to butter factories or separating stations for sweet cream	298,532	341,926
Sent to cheese factories	3,657,979	4,190,312
" condensers	1,062,270	1,399,866
Pasteurised at factories for metropolitan market	10,694,468	11,616,996
Balance sold or otherwise used	26,904,845	24,490,964
Total	231,592,000	184,014,000

As already stated, it was the manufacture of butter by machinery which made the dairying industry more than locally important, and it is to the introduction of the factory system in convenient centres that it owes its present development. When the factory system was introduced, the processes of cream separation and butter-making were carried on together. This arrangement was improved by the establishment of public "creameries" or separating stations, where the cream was separated and then sent to the factories. In recent years there has been another great change, and most of the farmers now treat the milk in their own dairies by means of hand separators.

The subjoined table shows the extent to which this system has obtained since 1905.

Year.	Milk Separated for making Butter.			
	On Farms.		In Public Separating Stations.	Total.
	By hand.	By steam, etc.		
	gallons.	gallons.	gallons.	gallons.
1905	103,438,591	7,577,972	19,347,767	130,364,330
1906	140,859,572	5,899,445	9,290,331	156,049,348
1907	142,843,911	3,775,899	6,488,604	153,108,414
1908	145,623,868	5,352,269	3,896,794	154,872,931
1909	156,189,009	5,962,492	2,302,239	164,453,740
1910	181,281,265	11,589,744	2,715,550	195,586,559
1911	176,983,192	17,835,035	2,162,984	196,981,211
1912	165,341,882	16,811,648	1,175,404	183,328,934
1913	165,898,111	18,722,170	1,109,094	185,729,375
1914-15	176,716,152	14,957,126	792,603	192,465,881
1915-16	113,165,967	13,596,083	505,406	127,267,456

PRODUCTION OF BUTTER.

The following statement shows the quantity of butter made, and the milk used for that purpose, during each of the last ten years. In distinguishing between the milk treated on farms and in factories, the quantity used in farm-factories, whether worked by a separate staff or by farm employees, has been included in the statistics relating to factories.

Year.	On Farms.		In Factories.		Total.	
	Milk used.	Butter made.	Milk used.	Butter made.	Milk used.	Butter made.
	gallons.	lb.	gallons.	lb.	gallons.	lb.
1906	14,288,379	4,636,642	141,760,969	54,304,495	156,049,348	58,941,137
1907	12,750,602	4,128,256	140,357,812	55,913,193	153,108,414	60,041,449
1908	12,876,805	4,329,241	141,996,126	57,051,635	154,872,931	61,380,876
1909	14,562,520	4,840,049	149,891,220	58,025,559	164,453,740	62,865,608
1910	15,751,415	5,126,790	179,835,144	71,498,040	195,586,559	76,624,830
1911	14,034,132	4,631,585	182,947,079	78,572,983	196,981,211	83,204,568
1912	12,424,315	4,116,762	170,904,619	72,492,766	183,328,934	76,609,528
1913	13,341,711	4,473,859	172,387,664	73,305,338	185,729,375	77,779,197
1914-15	11,272,165	3,805,378	181,193,716	80,328,902	192,465,881	84,134,280
1915-16	12,593,281	4,258,064	127,322,971	55,373,479	139,916,252	59,621,543

The proportion of factory-made butter in the total production has increased from 72 per cent. in 1895 to over 92 per cent. during 1915-16—a result of the decrease in the cost of production in factories as compared with farms.

The combined effects of the drought conditions prevailing more or less continuously during the year 1914-15, and the decrease in freight-space owing to military transit requirements, had a marked effect on the butter production of the year 1915-16. The area of grazing land under sown grasses had diminished but little, and the number of dairy cows in milk at the 30th June showed actually a slight advance in number, but the average number

of dairy cows in milk during the twelve months had declined by 48,376, or 9·4 per cent. on the number of the previous year. The total yield of milk was 53,916,000 gallons, or 22·6 per cent. lower than that of 1914-15; the butter output 24,502,737 lb., or 29·1 per cent. lower; and that of cheese, 376,991 lb., or 5·9 per cent. lower. Farm butter, made by hand, increased by 452,686 lb., or 11·9 per cent., on that of the previous twelve months, and the milk used in its manufacture by 1,321,116 gallons, or 11·7 per cent. But the annual average yield of milk per cow, owing to a long continuance of dry weather, had declined by 46 gallons, or 10·4 per cent., on that of 1914-15. The butter made in factories declined on the figures of the previous year by 24,955,423 lb., or 31·1 per cent., and the milk used in the process by 53,870,745 gallons, or 29·7 per cent. The total decline of butter-making as compared with the output of 1914-15 amounted to 24,502,737 lb., or 29·1 per cent., and of milk used to 52,549,629 gallons, or 27·3 per cent.

Further particulars regarding dairy factories are given in the chapter on Manufacturing Industry.

CHEESE-MAKING.

The advance in cheese-making has been by no means commensurate with the expansion of the butter trade, and during the year ended the 30th June, 1916, the quantity made was actually 5·9 per cent. less than the output for 1914-15. Although the demand for cheese is limited, the local production has invariably failed to supply the requirements of the State, hence it is evident that the manufacture of butter has been found more profitable. Moreover, the manufacture of cheese will never command the same attention as butter, owing to its great disadvantages as an article of export. Cheese matures quickly, and unlike butter cannot be frozen, and after a certain period it decreases in value. It represents, in addition, only half the money value of butter, while the cost of freight is practically the same; hence it is not surprising that even where cheese can be produced in New South Wales under excellent conditions, its manufacture is not being greatly extended.

From a previous table showing the cheese industry according to Divisions of the State, it will be seen that it is practically confined to the South Coast; in fact, the quantity made in other districts is becoming smaller each year. The South Coast production during the 1915-16 season exceeded 77 per cent. of the total in all Divisions.

The following table shows, for each year since 1906, the production of cheese in factories and on farms :—

Year.	Production of Cheese.		
	In Factories.	On Farms.	Total.
	lb.	lb.	lb.
1906	3,459,641	1,999,004	5,458,645
1907	3,261,894	1,324,963	4,586,857
1908	3,260,389	1,502,971	4,763,360
1909	3,248,515	1,526,753	4,775,268
1910	3,892,506	1,298,583	5,191,089
1911	4,617,387	843,265	5,460,652
1912	4,428,304	1,026,381	5,454,685
1913	4,872,165	1,748,483	6,620,648
1914-15	5,314,494	1,042,133	6,356,627
1915-16	4,969,374	1,010,262	5,979,636

CO-OPERATIVE AND PROPRIETARY FACTORIES.

Most of the factories dealing with dairy produce are established on the co-operative principle, and during the season ended the 30th June, 1916, 86 per cent. of the factory butter was made in these establishments. The following figures, comparing the co-operative and proprietary factories, are exclusive of butter and cheese made in factories worked in conjunction with farms.

Year.	Butter.		Cheese.	
	Factories.	Output.	Factories.	Output.
	No.	lb.	No.	lb.
Co-operative Factories.				
1907	73	36,228,183	8	786,649
1908	81	41,178,645	9	812,889
1909	90	44,632,044	10	1,002,361
1910	103	59,050,647	10	1,009,834
1911	105	66,194,003	10	1,140,731
1912	103	62,701,971	11	1,616,910
1913	102	64,376,531	11	1,393,196
*1914	103	36,725,400	9	769,883
†1915	102	72,364,931	9	1,822,696
†1916	99	50,220,294	10	1,857,774
Proprietary Factories.				
1907	87	19,520,957	19	2,039,281
1908	69	15,777,276	23	1,958,258
1909	60	13,213,979	20	1,746,745
1910	46	12,339,452	21	2,071,051
1911	46	12,227,509	18	2,345,188
1912	43	9,719,799	18	1,846,126
1913	39	8,868,852	18	2,058,514
*1914	30	3,490,423	16	833,897
†1915	34	7,937,230	18	1,947,735
†1916	29	5,131,697	23	2,093,117

* Six months—January to June. † Year ended 30th June.

OTHER MILK PRODUCTS.

There are other milk products besides butter and cheese which should receive more attention than is at present given to them. The manufacture of condensed milk is insufficient for the requirements of the local market, and large importations are necessary to meet demands. There are at present three factories in New South Wales, situated at Bomaderry, Singleton, and Windsor. A somewhat similar product, known as concentrated milk, is also being made at these factories, and it is used principally on ocean-going steamers. The total quantity of milk treated by the condensers during 1915-16 was 1,399,866 gallons, and the output of the articles totalled 4,918,064 lb., valued at about £90,000.

SWINE.

The breeding of swine, which is usually carried on in conjunction with dairy-farming, has been much neglected in New South Wales, as the fluctuations in the following table show.

Year.	Swine.	Year.	Swine.	Year.	Swine.
	No.		No.		No.
1860	180,662	1903	256,577	1908	215,822
1865	146,901	1901	265,730	1909	237,849
1870	243,066	1902	193,097	1910	321,632
1875	199,950	1903	221,592	1911	371,093
1880	308,205	1904	330,666	1912	293,653
1885	208,697	1905	210,702	1913	288,090
1890	283,061	1906	243,370	1914-15	286,701
1895	223,597	1907	216,145	1915-16	281,158

The breeding of swine is an important factor in successful dairy-farming. Until recent years there was some difficulty in obtaining suitable pigs for breeding purposes, but as stock from the best imported strains can now be purchased at the Government experiment farms and other institutions, this obstacle is no longer operative. The breeds available for stock in New South Wales are the improved Berkshire, Poland China, and Yorkshire strains.

The following statement shows the number of pigs in each division of the State at the end of June, 1916, and the production of bacon and ham during the previous twelve months.

Division.	Swine.	Bacon and Ham cured.
	No.	lb.
Coastal—		
North Coast	105,873	5,707,544
Hunter and Manning	53,454	375,642
County of Cumberland	20,730	5,424,438
South Coast	25,216	460,756
Total	205,273	11,968,380
Tableland—		
Northern	8,553	290,758
Central	11,681	296,993
Southern	5,078	150,316
Total	25,312	738,067
Western Declivity—		
North-Western Slope	9,239	139,394
Central „ „	6,321	93,579
South „ „	13,362	244,629
Total	28,922	477,602
Central Plains—		
North	922	2,555
Central	4,364	64,842
Total	5,286	67,397
Riverina	13,322	309,379
Western Plains	3,043	15,816
Total, New South Wales	281,158	13,576,641

As with other items of dairy produce, the output of bacon and hams during 1915-16 showed a decrease on that of 1914-15, amounting to 1,750,407 lb., or 11·4 per cent. The production, like that of butter and cheese, is confined chiefly to the coastal districts of the State, but the breeding of pigs is distributed throughout New South Wales.

INSPECTION OF MARKETS AND PIGGERIES.

The work of the Veterinary Staff of the Department of Agriculture during the year ended the 30th June, 1917, included the inspection of markets and piggeries within the metropolitan area, and 68 premises and 12,629 pigs were inspected, as compared with 83 premises and 75,054 pigs during the previous twelve months. There had been no outbreak of swine-fever, consequently the free movements of pigs within the area was not hampered with quarantine restrictions.

BACON AND HAMS.

The production of bacon and hams should be largely increased, as very rarely has it been sufficient to meet local requirements, and the production varies with the seasons.

The following table exhibits the output of bacon and ham from factories and farms during the last ten years.

Year.	Production of Bacon and Ham.		
	Factory.	Farm.	Total Production.
	lb.	lb.	lb.
1906	7,337,910	4,505,685	11,843,595
1907	7,240,685	3,117,841	10,358,526
1908	7,296,532	2,191,767	9,488,299
1909	7,856,466	2,074,911	9,931,377
1910	10,183,441	2,436,626	12,620,067
1911	13,393,536	2,709,291	16,102,827
1912	13,766,482	2,759,894	16,526,376
1913	12,874,666	2,317,597	15,192,263
1914*	.....	.....	6,587,000‡
1915†	13,564,630	1,762,418	15,327,048
1916†	11,637,895	1,938,746	13,576,641

* January to June.

† Year ended 30th June.

‡ Partly estimated.

LARD.

Statistics showing the total production of lard are not available. During the year ended the 30th June, 1916, the quantity extracted in bacon factories amounted to 556,094 lb., valued at £22,278; but as the manufacture of this product is conducted in many other establishments as well as on farms, this quantity represents only a portion of the total output. It is apparent, however, that the production is not sufficient for local requirements, which are supplied by importation.

During the twelve months ended 30th June, 1916, the overseas exports of lard and refined animal fats amounted to 73,461 lb., valued at £3,138, and the direct imports from overseas countries to 2,890,043 lb., valued at £80,451.

DAIRY INSTRUCTION.

Educational and experimental work relating to dairying is conducted by the Department of Agriculture at several of the State institutions, including the Hawkesbury Agricultural College, the experiment farms at Wagga Wagga and Grafton, the dairy farm at Wollongbar, on the North Coast, and the stud farm at Berry, on the South Coast.

The Berry farm is devoted to the breeding and raising of pure milking Shorthorn and Holstein stock; Wollongbar and Grafton to pure stud stock, and Wagga Wagga to Jersey cattle. At each of these institutions and at the Hawkesbury College provision is made for students, and it is intended also to establish a dairy school in connection with the Berry farm, where special courses of veterinary instruction will be given.

In order to enable factory managers and butter-makers to improve their scientific knowledge, dairy-science schools are held for short terms at different dairying centres.

Instructors travel throughout the principal dairying districts during each year in order to give instruction and advice in cream-grading, butter and cheese making, and in all other matters connected with the industry.

THE DAIRY INDUSTRY ACT.

The Dairy Industry Act, which was passed in December, 1915, provides for a complete inspection by officers of the Dairy Branch of the Department of Agriculture, of factories devoted to the making of butter and cheese. The Act provides also for the compulsory uniform grading of butter, both for exportation and for local consumption. The grading of cream at butter factories is likewise compulsory, and those desirous of qualifying for this class of work must fulfil the conditions of a test examination before being permitted to grade cream under the provisions of the Act. It is required, moreover, that all butter be packed into boxes bearing registered brands, indicative of the quality of the product contained therein, the responsibility of truth to description resting in the first instance on the manager of any specified factory. The supervision of the details involved in all this work is vested in an experienced dairy instructor, who is appointed to each of the dairying districts of the State. This officer acts also as an inspector, and he is constantly in communication with the factory managers and cream graders of his administrative area, and is consequently engaged in continual instruction in matters connected with the industry. The teaching of the dairy instructor is necessarily co-ordinated with the grading conducted in Sydney, where all butter intended for exportation is examined. Grade certificates recording the quality of the article are forwarded to the manufacturer, and copies of such certificates are given also to the dairy instructor for the district, who is thereby minutely informed of the Sydney grade-standard of the butter made under his supervision.

Although the Dairy Industry Act has been in force only a little more than a year, the quality of factory butter has markedly improved. In the best year prior to the passing of the Act the proportion of first-quality butter passed for exportation amounted to 50 per cent., whereas it rose during the current season to 80 per cent. In addition to their other prescribed duties, the district dairy instructors impart instruction by the medium of lectures on the different processes of dairying.

DEPARTMENTAL SCHOOLS OF DAIRYING.

The Department of Agriculture has for some years organised at a number of centres a regular series of schools during the winter months for imparting instruction in branches of the dairying industry to factory managers, cream graders, and butter makers; and certificates are given to those who pass successfully examinations in the grading of cream, and in the testing of milk and cream.

The Hawkesbury Agricultural College awards a diploma in dairying to the students who have completed a two-years' course, and this certifies not only to a practical knowledge of the art of dairying, but also of the sciences upon which that knowledge is based. In addition, instruction in dairying is imparted to students entered at the experiment farms of Wagga Wagga, Wollongbar, and Grafton.

HERD-TESTING.

In the different districts in which the experiment farms are situated the Department of Agriculture has established and maintained imported high-class herds of pure-bred dairy cattle. The farm at Berry is devoted to the breeding and raising of shorthorn and Holstein milking stock; at Wollongbar are reared stud Guernseys; at Grafton, stud Ayrshires; at Wagga Wagga, Jerseys; at Bathurst, Kerries; at Glen Innes and Yanco, Ayrshires; at Cowra, Jerseys; and at the demonstration farm at Nyngan, red-polls. Among other pure-bred stock raised at the Hawkesbury Agricultural College, Jerseys hold a prominent place.

Apart, however, from the stimulus thus given to the industry, and for the purpose of assisting dairy-farmers to improve their herds by the introduction of pure-bred cattle from high-class stock, there is a valuable educational process being continuously conducted in the form of herd-testing. This section comprises two branches, namely, the testing of pure-bred dairy cattle by the officers of the Department of Agriculture, and the testing of a large number of dairy cattle through local associations that have been organised by the Department. Before the outbreak of the War about 20,000 head of cattle were being thus tested; but there has been a considerable decline in this useful activity, owing to most of those previously engaged in the performance of the work having enlisted for military service.

EXPORTS OF DAIRY PRODUCTS.

The following table shows the overseas exports of butter, cheese, and bacon, exclusive of ships' stores, since 1906.

Year.	Overseas Exports.					
	Butter.		Cheese.		Bacon and Ham.	
	lb.	£	lb.	£	lb.	£
1906	22,991,303	962,877	99,918	2,652	83,862	2,932
1907	17,832,354	769,463	134,468	3,813	80,346	3,368
1908	17,261,331	813,490	53,554	1,921	82,899	3,742
1909	17,381,117	752,487	53,117	1,732	62,380	2,670
1910	27,047,481	1,223,518	82,294	2,413	500,296	14,551
1911	32,629,324	1,500,709	85,395	2,508	487,845	12,836
1912	20,456,300	1,076,851	84,866	3,219	377,352	11,498
1913	21,950,967	987,793	85,760	2,721	336,560	12,626
1914*	6,495,303	294,774	46,881	1,448	68,035	3,255
1915†	23,281,233	1,162,790	342,138	9,865	177,549	8,487
1916†	3,741,841	226,444	52,963	3,663	51,239	2,985

*Six months—January to June.

† Year ended 30th June.

Drought conditions caused a decline in dairy production during 1915-16, as compared with that of the preceding year, amounting to 24,502,737 lb., or 29.1 per cent., of butter; to 376,991 lb., or 5.9 per cent., of cheese; and to 1,750,407 lb., or 11.4 per cent., of bacon and ham. But the decline in exports of dairy products bears no consonant proportion to the decline in dairy production itself, and must be attributed to the incidence of the War, and the consequent great shortage of freight-space. On the export figures

for 1914-15, those for 1915-16 represented the following decreases:—Butter, 19,539,392 lb., or 83.9 per cent.; cheese, 289,175 lb., or 84.5 per cent.; and bacon and ham, 126,310 lb., or 71.1 per cent. The decline in value of exports, on those of the preceding year, were as follow:—Butter, £936,346, or 80.5 per cent.; cheese, £6,202, or 62.9 per cent.; and bacon and ham £5,502, or 64.8 per cent.

Under the Customs Regulations dairy produce for export must be submitted to inspection and must be graded prior to acceptance for shipment, and the exportation of inferior products is prohibited unless the goods are labelled as being below standard. The examination is conducted by a special staff of inspectors connected with the Department of Agriculture.

Before the outbreak of the great War, the export trade in butter was carried on almost entirely with the United Kingdom, where an immense population constituted a ready market for all the products of the dairying industry. The exportation of butter during the year 1916-17, as already pointed out, declined almost to vanishing point, a result due not so much to decreased production as to the difficulty of securing ocean freightage.

The imports of butter, the production of New South Wales, into the United Kingdom during the last ten years are shown hereunder.

Year.	Imports of Butter from New South Wales.	Proportion of Total Butter imported into United Kingdom.
	cwt.	per cent.
1907	195,289	4.64
1908	138,953	3.30
1909	132,708	3.27
1910	217,780	5.03
1911	281,588	6.54
1912	186,695	4.61
1913	155,936	3.77
1914	122,528	3.08
1915	158,222	4.16
1916	32,575	1.50

PRICES OF BUTTER IN LONDON.

The average top prices per cwt. for Australian butter in London during the last five seasons were as shown below.

Month during which Sales were effected in London.				1912-1913.	1913-1914.	1914-1915.	1915-1916.	1916-1917.
				1912. s.	1913. s.	1914. s.	1915. s.	1916. s.
August	...	...	...	114	106½	*	*	168
September	...	...	...	118	109½	*	*	187
October	...	...	...	119½	119	*	*	197
November	...	...	...	114½	121	129½	*	203
December	...	...	...	117½	120½	135½	*	208
				1913. s.	1914. s.	1915. s.	1916. s.	1917. s.
January	...	...	...	112.	113½	139½	143½	203
February	...	...	...	111½	112½	132	149	205
March	...	...	...	111½	110½	136	158	209½
April	...	...	...	109	104½	132	158	191
May	...	...	...	109	104	137	160	192
June	...	...	...	107½	104	140	160	185
July	...	...	...	108	109½	140½	160	191½

* No quotations.

In earlier years there was difficulty in securing ocean freights during the export season, but the trade ultimately assumed such important dimensions that, prior to the beginning of hostilities in Europe in 1914, it became the subject of keen competition among shipping companies.

The freight on butter forwarded by mail steamers from Sydney to London during the seasons 1900-1 to 1904-5, was 3s. 6d. per box of 56 lb., while for other steamers the rates varied from 10d. to 1s. 9d. For the 1905-6 season contract rates were 1s. 10d. for mail steamers and 1s. 9d. for cargo boats. On 1st October, 1907, the rates were increased to 2s. 6d. per box by mail steamers, but from the date of the mail contract with the Federal Government—1st February, 1910—the charge for butter carried by the Orient line of mail steamers was reduced to 2s. 4d. per box, the rate for the P. & O. mail steamers remaining unchanged. The charge for other steamers was fixed at 2s. per box.

These charges were not altered until the outbreak of the War, when a 20 per cent. surtax was imposed in addition to the 5 per cent. primage. The rates were advanced twice during 1915, and again on 28th February, 1916, when the charges were raised for mail steamers and cargo boats to 4s. and 3s. 9d. respectively, with primage added. Practically, however, freights are no longer matters for arrangement, as ocean transit has ceased to play an effective part in Australasian oversea trade.

DAIRYING INDUSTRY.—VALUE OF PRODUCTION.

The value of the production from the dairying industry during 1915-16 was £4,868,500, to which may be added £604,500 obtained from the sale of swine, making a total of £5,473,000, as under :—

									£
Butter	...	...	...	...	...	...	...	...	3,198,000
Cheese	...	...	...	...	...	...	...	...	167,000
Milk (not used for butter or cheese)	...	...	...	...	...	...	...	...	1,084,000
Milch cows	...	...	...	...	...	...	...	...	419,500
Swine	...	...	...	...	...	...	...	...	604,500
									<hr/>
Total	...	...	...	...	...	...	...	...	5,473,000

MACHINERY.

A list of dairying implements and machinery in use was given in the Official Year Book of 1912. The value of farm implements and machinery used in the dairying industry during 1915-16 was £570,955.

A comparison of machinery used in the rural industries is shown in the chapter on Agriculture.

POULTRY-FARMING.

Poultry-farming was conducted formerly in conjunction with dairying; but the interests involved became commercially so important that a distinct industry dealing with poultry alone has been developed. Every effort is made to obtain the benefits of the most modern methods of poultry-farm management, and to secure the best egg-laying and table breeds. Statistics of production are not available, but a general estimate based on accessible returns shows the value during 1915-16 to be approximately £2,144,000.

The following statement contains particulars for a series of years regarding poultry of all descriptions on farms or holdings of 1 acre and upwards. The

absence of information as to the poultry kept on areas of less than 1 acre detracts, however, considerably from the value of the statement.

Year.	Poultry of all Descriptions on Farms or Holdings of 1 acre and upwards on 31st December.					Eggs obtained during year. All kinds.
	Fowls, Chickens, &c.	Ducks, &c.	Geese, &c.	Turkeys, &c.	Guinea Fowls.	
	No.	No.	No.	No.	No.	dozen.
1908	2,736,986	234,870	25,631	193,613	4,514	11,305,299
1909	2,692,385	268,741	25,878	224,187	5,000	12,096,859
1910	3,092,375	325,550	28,980	244,456	5,015	13,204,904
1911	3,199,163	321,596	26,127	232,529	4,663	13,637,129
1912	3,351,639	261,075	23,948	216,274	5,988	13,768,865
1913	3,878,234	273,919	24,545	245,693	5,920	15,136,938
1915*	3,140,635	182,141	17,996	152,181	5,924	12,437,993
1916*	3,106,133	159,207	16,893	145,863	5,410	13,634,455

* Year ended 30th June.

Since 1901, egg-laying competitions organised by private subscription have been conducted at the Hawkesbury Agricultural College, with the object of stimulating the poultry industry. These competitions have attracted widespread interest, and birds for competition are sent from all parts of New South Wales, from the other Australian States, from New Zealand, and some from America.

By this means much valuable information has been gained from practical experiment and research; tests are arranged and records are kept of the cost of feeding, and of the results obtained from the various breeds of poultry, and by different methods of treatment. An annual report in bulletin form, giving particulars and tabulated results, is issued by the Department of Agriculture.

BEE-KEEPING.

The bee-keeping industry is at present time of small importance, though there is ample inducement for further expansion.

The production of honey and of beeswax varies considerably from year to year, as shown in the following table, which relates to the last ten years.

Season.	Bee Hives.			Honey.	Average Yield of Honey per productive Hive.	Beeswax.
	Productive.	Un-productive.	Total.			
	No.	No.	No.	lb.	lb.	lb.
1906-07	37,306	11,964	49,270	1,907,744	51.1	34,690
1907-08	53,240	15,148	68,388	2,660,363	50.0	48,427
1908-09	53,612	16,347	69,959	3,064,526	57.2	58,697
1909-10	47,807	17,992	65,799	2,066,330	43.2	53,006
1910-11	55,958	14,308	70,266	2,765,618	49.4	72,617
1911-12	62,254	11,801	74,055	3,433,253	55.1	67,358
1912-13	50,285	13,023	63,308	2,410,000	47.9	49,734
1913-14	43,990	11,029	55,019	1,866,835	42.4	39,244
1914-15	29,857	9,691	39,548	1,143,605	38.4	26,676
1915-16	31,974	5,803	37,777	1,590,384	49.7	29,919

Owing to the unfavourable season, a low yield resulted during 1909; and although the average per productive hive showed a decided improvement during the following two years, the dry conditions which prevailed in some Divisions during 1912 caused a diminished production, the yield per hive,

47·9 lb., being below the decennial average. In 1914, owing to a continuation of the dry conditions, the yield fell to 38·4 lb., the lowest figures in the decennium. In 1915 there was a marked increase in the average yield of honey per productive hive, amounting to 49·7 lb. The returns for the two years, 1914 and 1915, include box-hives and frame-hives. From 12,398 of the former classed as productive, 511,409 lb. of honey and 12,019 lb. of beeswax were taken in 1914; and from 6,313 box-hives in 1915 the amount of honey and beeswax taken respectively was 215,989 lb. and 6,642 lb. The yield from 17,459 frame-hives in 1914 was 632,196 lb. of honey and 14,657 lb. of beeswax; and in 1915 it was, from 25,661 frame-hives, 1,374,395 lb. of honey and 23,277 lb. of beeswax. The box-hive has been condemned, and special legislation has been passed with reference to apiculture, more fully detailed in the chapter on Agriculture.

The estimated value of the production in 1915-16 of honey was £30,000, and of beeswax £2,000, the production for each division being as follows :—

Division.	Honey.	Beeswax.
	lb.	lb.
Coastal	661,378	13,983
Tableland	678,380	10,970
Western Declivity	234,422	4,483
Central Plains and Riverina	15,704	473
Western Plains	500	10
Total	1,590,384	29,919

FORESTRY

THE forest lands of the State containing timber of commercial value consist of about 15 million acres, three-fifths of which are Crown lands, and two-fifths are alienated; about 7 million acres of State lands have been either dedicated or reserved for the preservation and growth of timber.

The total forest area, although not large, contains a great variety of useful timbers, which in hardwoods number about twenty different kinds of good commercial value, including such renowned constructional woods as iron-bark, tallow-wood, and turpentine, whilst in other timbers there are about twenty-five varieties, including such valuable timbers as cedar, beech, pine, and teak. It is estimated that, approximately, five-sixths of the timber supply consists of mixed hardwoods and one-sixth of soft and brush woods.

The earliest evidence of attention to State forestry is found in the publication of Timber License Rules in the year 1839. In 1871 the first timber reserves were notified, and in 1877 regulations were made as to the cutting and use of timber.

During subsequent years little was done to protect the forest resources; timber was cut as requirements prompted, no heed was given to the necessity for systematic replacement to meet the wants of the future; and, as there was no specially constituted body with powers of supervision or conservation, large tracts of country were denuded and much valuable timber was destroyed.

Realising the necessity for remedial measures, the Government in 1907 appointed a Royal Commission to report upon the effectiveness of the forest laws, and to indicate what steps should be taken in the direction of afforestation and reafforestation.

The Royal Commission estimated that at the current rate of consumption local supplies of hard and soft wood timbers would last about forty-seven and twenty-eight years respectively, and recommended the passing of forestry legislation, the strengthening of supervisory machinery, and the permanent dedication of all lands reserved for forestry purposes, for the preservation, growth, and re-growth of timber. Among other recommendations were the prohibition of export of certain timbers which are of special value locally for constructive purposes, the establishment of a Department of Forestry, the appointment of a Director of Forests, and the initiation of a vigorous policy of afforestation and reafforestation.

Following this report, a Forestry Department was established, and a Director of Forestry and other officers were appointed under the Forestry Act, 1909. This Act was repealed by the Forestry Act, 1916. The new Act provides for the constitution of a Forestry Commission, consisting of three members, one of whom is to be Chief Commissioner, each commissioner being appointed for a term of seven years. Only the Chief Commissioner has been appointed, but for the time being two Ministers of the Crown are acting as Assistant Commissioners (without remuneration), in terms of an Act passed in 1916.

The Commission is charged with the administration of the Forestry Act, 1916, which provides for the control and management of the State forests and timber reserves, for the training of forest officers, for the conduct of research work, and for the collection of statistics in connection with forestry.

The Commission may dispose of timber and products or any State forest or timber reserve, and—

- (a) take and sell such timber and products;
- (b) convert any such timber into logs, sawn timber, or any other merchantable article, and sell the same;
- (c) convert any such products into merchantable articles, and sell the same;
- (d) construct roads, railways, and tram-lines and other works for the transport of timber; and purchase, rent, or charter and use vehicles and vessels, with the necessary motive power;
- (e) construct, purchase, or rent sawmills and other mills, with all the necessary machinery and plant for converting timber, and manufacturing articles from timber, and use such mills for those purposes.

The Commission may purchase horses, cattle, and sheep, and depasture them on State forests, and may sell such horses, cattle, and sheep.

One-half of the gross amount received from royalties, licenses, and permits, and from the sale of timber, other than the output of the mills as indicated in (e) above, is to be set apart for afforestation, reafforestation, survey and improvement of State forests and timber reserves, and for purposes incidental thereto, provided that the expenditure of an amount exceeding £5,000 on any particular work shall be subject to the approval of the Minister.

The Government may purchase, resume, or appropriate land for the purpose of a State forest, and may dedicate Crown lands as State forests or timber reserves. After the expiration of three years from the commencement of the Act there must be not less than 5,000,000 acres of land in New South Wales dedicated as State forests.

All areas occupied or leased for mining or for other purposes within a State forest are subject to the provisions of the Forestry Act, and the Commission, with the approval of the Minister, may issue, on such conditions as it thinks fit, and for any term not exceeding twenty years, leases of land within State forests for grazing or for any purpose approved by the Commission and not opposed to the interests of forestry; such leases will be termed "Forest leases."

Timber-getters' and other licenses will be issued by the Commission, and exclusive rights to take timber products from specified areas of State forest of timber reserves may also be granted.

Every person conducting a sawmill for the treatment of timber must obtain a license, keep books and records, and make prescribed returns. Royalty must be paid on all timber felled and on all products taken from any State forest, timber reserve, Crown lands, or lands held under any tenure from the Crown which require the payment of royalty; but such royalty is not payable on timber exempted by terms of the license or by the regulations, or on timber required for use on any holding not comprised within a timber or forest reserve; allowance may be made also for any timber which is not marketable. Trees on any State forest, timber reserve, or Crown lands, with the exception of lands held under conditional lease granted before the passing of the Act, must not be ringbarked except under permit.

The Minister may impose conditions for afforestation and reafforestation in all exclusive rights or licenses.

The Act makes provision for regulations on the following matters:—Licenses, &c., and the fees and royalties payable; the periods and the conditions under which licenses, &c., may be granted; the protection and preservation of timber; the inspection, cutting, marking, and removal of

timber; the kinds, sizes, and quantities which may be cut or removed; the conditions under which fires may be lighted in State forests; and the organisation of a system of education in scientific forestry.

The Act provides also for the classification of forest lands and for proclamation of State forests; and survey work is in progress for this purpose.

As an aid to forest management, arrangements are being made for the enrolment of forest cadets, and for the establishment of a training school with a curriculum of educational and scientific subjects.

A large amount of regenerative work has been done already in connection with the Murray River and the inland forests. Experimental works have been started in various parts of the coast and highlands to test the capacity of different classes of hardwood forest for reafforestation, and to ascertain the best methods of treatment; and stations have been selected for the promotion of afforestation by the establishment of State nurseries, with the object of utilising some of the waste lands of the State, of which about 300,000 acres are suitable for the purpose.

On 30th June, 1916, the total area of State lands reserved for the preservation of timber was 6,938,627 acres, as compared with 7,273,235 acres in the previous year.

RATE OF GROWTH OF INDIGENOUS COMMERCIAL TREES.

An investigation is being conducted in the Department of Forestry regarding the rate of growth of the indigenous commercial timbers in New South Wales; of the hardwoods, the flooded gum, blue gum, spotted gum, and blackbutt are the fastest growers, and the red ironbark and the grey gum are the slowest. The evidence to date indicates the approximate rate of growth to be as under:—

Species of Tree.	Mean average annual diameter growth.	Pre-scribed diameter growth at maturity.	Approximate age when matured.	Species of Tree.	Mean average annual diameter growth.	Pre-scribed diameter growth at maturity.	Approximate age when matured.
COASTAL HARDWOODS.				INLAND HARDWOODS.			
	Inches.	Inches.	Years.		Inches.	Inches.	Years.
Grey ironbark ...	0·50	30	60	Ironbark ...	0·44	24	54
Red „ ...	0·35	24	68	Red stringybark ...	0·61	16	26
Tallow-wood ...	0·58	30	52	White „ ...	0·44	16	36
Blackbutt ...	0·68	30	44	Blackbutt, N.E. ...	0·35	18	51
Spotted gum ...	0·77	21	27	Murray red gum ...	0·52	34	65
Grey box ...	0·52	24	46	Cypress pine ...	0·43	12	28
Blue gum ...	0·87	28	32				
Grey „ „ ...	0·35	24	68	Average, inland hardwoods.	0·47	...	46
Red mahogany ...	0·44	24	54				
Woollybutt ...	0·65	28	43	BRUSH AND SOFTWOODS.			
Flooded gum ...	0·87	28	32	(Coastal and highlands.)			
Turpentine ...	0·44	30	68	Silky oak ...	0·65	24	37
Bloodwood ...	0·57	18	31	Red cedar ...	0·50	32	64
				Hoop pine ...	0·48	30	62
				Colonial teak ...	0·61	28	46
				Rosewood ...	0·61	28	46
				Coachwood ...	0·87	12	14
				Sassafras ...	0·44	20	45
Average, coastal hardwoods.	0·58	...	48	Average, brush and softwoods.	0·59	...	45

STATE FOREST NURSERIES AND PLANTATIONS.

A State Forest Nursery is maintained at Gosford for the propagation of economic plants. The planted area is about 44 acres, and arrangements are being made for its extension; exchanges of seeds and plants are made with similar institutions in various parts of the world. At Hogan's Brush, an adjunct to the State Nursery, there is a planted area of 20 acres, which will be extended by the resumption for forestry and agricultural purposes of an adjoining area of 100 acres.

The distribution of plants from Gosford during the year ended 30th June, 1916, was as follows :—

Forest Plantations	...	...	...	...	...	...	17,790
Departmental Grants	...	...	...	...	...	...	4,465
Agricultural Farms and Public Institutions	...	...	...	...	...	...	15,250
Exchanges	...	...	...	...	...	...	2,795
Total	...	...	...	...	...	...	40,300

Branch nurseries have been established at Tuncurry, in the North Coast district, and at Armidale, on the Northern Tableland. In addition, a camp for good-conduct prisoners has been erected near Tuncurry, where an area of 700 acres is planted; at 30th June, 1916, 400,000 trees had been planted out. Preliminary arrangements have been made to establish a wattle plantation for convalescent consumptives at Boonoo Boonoo, near Tenterfield. Experimental areas for reafforestation treatment have been selected near Grafton, Bellingen, and Copernook; and reafforestation work has been done on reserves in the Armidale, Manning, Kempsey, Ourimbah, and Cessnock districts.

TIMBER FOR PUBLIC WORKS.

Arrangements are being made for the establishment of State saw-mills, and for the business of direct supply of sawn, round, and hewn timbers for Government purposes, as an industrial undertaking.

A Committee on Timber Supply, comprising representatives of various Government Departments, was appointed during the year 1914. The Committee estimated that the State's annual consumption of timber is 500 millions superficial feet; the average supply, calculated on the production of existing forest reserves, is 5,000 superficial feet to the acre.

FOREST INDUSTRIES.

During the year ended 30th June, 1916, there were 533 saw-mills licensed. The employees numbered 4,344, and the value of plant and machinery was estimated at £547,471. The output of native timber amounted to 115,201,000 superficial feet, valued at the mills at £854,396.

IMPORTS AND EXPORTS OF TIMBER.

In the following table is shown the import and export values of timber to and from New South Wales for the last six years :—

Year ended 30th June—	Imports.	Exports.	Year ended 30th June—	Imports.	Exports.
	£	£		£	£
1911	1,014,058	285,572	1914	1,405,779	261,607
1912	1,147,414	279,900	1915	1,145,649	198,288
1913	1,436,922	248,020	1916	888,507	44,486

FORESTRY LICENSES AND PERMITS.

The following return shows the licenses and permits current during each of the years ended 30th June, 1916 and 1917 :—

Description.	Amount of Fee.			Total Fees Collected year ended 30th June	
	Per Month.	Per Quarter.	Per Year.	1916.	1917.
	s. d.	s. d.	s. d.	£	£
Timber License (sub- ject to Royalty). ...	2 6	7 6	.....	5,142	5,077
Fuel License ...	5 0	10 0	40 0		
Products License ...	2 6	7 6	.....	
Grazing Permit ...	1 0	.....	.....
	(Subject to payment of agistment fees, as assessed by Forestry Officers.)				
Saw-mill License ...	.....	.....	20 0	478	504
	(When issued after 30th June in any year, 10s. for unexpired portion of the year).				
Special License ...	.....	7 6	30 0	176	194
Occupation Permit ...	1 0	.....	.....	271	233
	(Subject to payment of rent to the Crown and compensation to the lessee or licensee (if any), assessed by the Minister.)				
Ringbarking Permit ...	(Prescribed fee, £2). Net amount received ...			862	643
	Total £			6,929	6,651

TIMBER LICENSES.

The revenue collected by the State from Timber Licenses and from Royalty on timber during each year since 1908 is given in the subjoined table :—

Year.	Timber Licenses, &c.	Royalty on Timber.	Total.	Year.	Timber Licenses, &c.	Royalty on Timber.	Total.
	£	£	£		£	£	£
1908	10,546	46,583	57,129	1913	12,251	85,362	97,613
1909	10,486	46,755	57,241	1914*	6,593	39,531	46,124
1910	10,877	70,960	81,837	1915†	11,365	76,021	87,386
1911	11,153	79,165	90,318	1916†	8,701	59,406	68,107
1912	10,998	85,967	96,965	1917†	9,136	58,137	67,273

* Six months ended 30th June.

† Year ended 30th June.

The practice of forestry in Europe and America has shown that greater expenditure by the Government means vastly increased profits, and there is reason for expecting increased revenue as the result of forest improvement in New South Wales, where timber grows more rapidly and to larger size.

TIMBER PHYSICS.

A series of timber tests has been undertaken at the University of Sydney. The tests were carried out in accordance with the latest methods, and are of scientific and practical value. They proved the correctness of the favourable opinion held by users of the timbers of New South Wales as to strength and durability.

INTERSTATE FORESTRY CONFERENCES.

Interstate Conferences of Forest Officers of Australia were held in 1911, 1912, and 1916, to secure uniformity in procedure and administration. The subjects discussed include the following:—

Forest policy and legislation, training of Forest Officers, afforestation of waste lands, establishment of an Australian Forestry League, maintenance and extension of coniferous forests, fire protection, preservation of forest vegetation on mountain water-sheds, identification and uniform nomenclature of indigenous timbers, economisation of waste material, mixed planting of eucalypts, and the establishment of an Australian Journal of Forestry, &c.

TREE-PLANTING BY LOCAL AUTHORITIES.

Under the Local Government Act, 1906, the functions of a Shire Council include the making of provision—

For the prevention or mitigation of bush-fires, including the organisation of bush-fire brigades.

For the construction and maintenance of streets, including tree-planting.

The primary functions of municipalities include the care and management of parks and recreation grounds, public reserves and commons, the care of which is not under any statute vested in other bodies or persons. A Council of a municipality or shire may plant trees in any public road or street, and may set apart and fence portions of public roads or streets as tree reserves.

FISHERIES.

THE waters along the coast of New South Wales contain numerous varieties of fish, but the fishing industry has not been developed commercially to anything like the extent of its capabilities. The vast mineral, pastoral, and agricultural resources of the State have presented more profitable avenues for the investment of capital, so that the development of fisheries has been left mainly to a few individuals with limited capital and primitive appliances.

CONTROL OF THE FISHERIES.

Under the Fisheries Act, 1902, control of the fisheries of the State, previously administered by a Commission, was placed in the hands of a Board to supervise the industry, to carry out investigations likely to be of service, and to ensure observance of the regulations in regard to the dimensions of nets, closure of inland and tidal waters, net-fishing, and other such matters. Under an amending Act, in 1910, the Fisheries Board was dissolved, and its powers vested in a Minister of the Crown, the Chief Secretary being charged with the administration of the Act.

Under the State trawling scheme, operations commenced in June, 1915, but as the industry is essentially a commercial project it was declared to be an industrial undertaking, and is therefore carried on independently of the other fisheries of the State.

FISHING LICENSES.

A license must be obtained for his fishing boats, by every fisherman in tidal waters, the annual fee being 5s., which is reduced to half that amount if the license is issued after 30th June and before 1st December.

The number of licenses granted to fishermen during the year 1916 was 3,008, and of fishing-boat licenses 1,630; the fees received from these 4,638 licenses amounted to £1,078.

The subjoined table shows the number and value of the boats used during, 1916 :—

Description.	Number.	Value.
Boats not more than 24 feet over-all—		£
With motor 	185	17,176
Without motor	747	22,034
Boats more than 24 feet over-all—		
With motor 	75	18,733
Total 	1,007	57,943

OYSTER LEASES.

For the purposes of oyster-culture, tidal Crown lands below an approximate high-water mark may be leased at yearly rentals, determined by the Minister, for every hundred yards of frontage; the areas are classified as average, special, or inferior lands.

The leases of average lands are for fifteen years, but may be renewed for a like period; no area upon which an aggregate rental of less than £5 per annum is payable, may be leased to any person not already an oyster lessee.

Leases of special lands are granted for areas of special value after the land has been offered by auction or tender, and are subject to the same conditions as leases of average lands, but need not be confined to areas along the approximate high-water mark.

Leases of inferior lands are granted for a term not exceeding ten years, with the right of renewal for a further term of five years.

During the year 1916 applications for leases numbered 490, aggregating 132,089 yards of foreshore and 226½ acres of off-shore leases; while at the end of the year the existing leases numbered 2,979; the length of foreshores held was 925,821 yards, and there were deep-water leases to the extent of 199¾ acres. The deposits paid with the applications for leased areas were £1,193, while the rentals received during the year for leased areas were £6,395. Licenses issued to oyster vendors numbered 311, the fees received being £292.

PRODUCTION.

The most important kinds of fish marketed are snapper, bream, black-fish, whiting, mullet, jewfish, flathead, garfish, and Murray cod—a fresh-water fish; salmon, tailor, trevally, leather-jacket, and others are gradually gaining favour in the local markets.

Details of the Government trawling scheme and particulars regarding the marketing of fish and oysters are given in the chapter of this Year Book relating to Food and Prices.

Fish.—Exclusive of trawled fish, the quantity consigned to Sydney and Newcastle markets during 1916 totalled 201,562 baskets, of which 4,713 baskets were condemned. In addition, 3,667 baskets of fish were consigned from the Tweed River to Brisbane, 375 from Eden and Pambula to Melbourne, and 12,000 baskets are recorded as having been sold in various fishing centres in coastal areas, but these figures are incomplete. A basket of fish is calculated at 84 lb. weight.

As usual the bulk of the supplies came from the estuaries and lakes on the northern part of the coast-line. A small proportion, chiefly snapper, came from the ocean, this being principally the produce of the long-line ("Jacob") Fishery. The main sources of the fresh fish supply are indicated below, the weights being inclusive of the quantities condemned—

Clarence River ...	3,569,000 lb.	Wallis Lake ...	1,245,000 lb.
Port Stephens ...	1,735,000 "	Botany Bay and	
Lake Illawarra ...	1,591,000 "	George's River ...	1,057,000 "
Tuggerah Lakes ...	1,361,000 "	Lake Macquarie ...	1,047,000 "

Notwithstanding the immense shipping development and consequent increase of traffic, and the large reclamation of foreshores of recent years, it is of special interest to note that the marketed production from Port Jackson was as much as 274,000 lb. The actual production was very much greater, because a considerable quantity was sold in the suburbs of Sydney without passing through the markets.

Crayfish.—The number of marine crayfishes (*Palinurus*) marketed during 1916 was 116,820; the number captured was very much greater, but many were lost by death before marketing, and 426 dozens were condemned. The principal source of supply was the northern crayfish grounds, from Newcastle to Port Macquarie. In addition, the record of local sales show that 4,800 were disposed of; these figures, however, are incomplete, as they do not cover the whole coast.

Prawns.—A quantity of 7,157 baskets, or, approximately, 285,480 quarts, of marine prawns (*Penaeus*) was marketed during 1916. Local returns

(incomplete, as before mentioned) show an additional production of 30,000 quarts, and, approximately, 4,000 baskets not included in this total were sold for bait.

Crabs.—A large number of edible crabs was marketed. These comprised several species of swimming-crabs, notably the Blue (*Lupa*) and the Mangrove (*Scylla*). About 1,090 baskets of crabs were marketed, in addition to 42 baskets disposed of locally at the various fishing centres, and 3 baskets consigned from Tweed Heads to Brisbane.

Oysters.—For the year 1916 the oyster production of the State amounted to 23,365 sacks of the Rock Oyster (*Ostrea cucullata*). This output was principally the result of artificial cultivation.

Whaling.—The operations of the modern Norwegian Whaling Company have been suspended for several years, and probably they will not be resumed until the close of the war. In 1912 work began about half-way through the season, and was conducted for about two and a half months, during which time no less than 158 whales were captured. From these approximately 3,500 barrels (583½ tuns) of oil, valued at £12,000, were taken. During 1913 operations were begun in May, and, notwithstanding nearly two months of very bad weather, the season closed in mid-November with 329 whales, yielding 16,000 casks of oil; and making a total of 487 whales during two seasons. The following species of whale were taken:—Blue or sulphur-bottom, finback or finner, pollock or fish, humpback, and sperm. The most numerous, and at the same time the most valuable as oil-producers, were the humpbacks. The whales measured from 35 feet to 85 feet in length, and yielded quantities ranging from five casks to 150 casks, or 25 tuns. Although several whales passed along the coast during 1915, no attempt was made to capture them. During 1916 two whales were secured in the vicinity of Twofold Bay, a humpback in July, and, in September, a large Right whale, which yielded, in addition to the whalebone, about 6 tuns of oil, valued in all at about £400.

There is ample scope on the coast of the State for two shore stations, working under modern conditions, with two steam whaling gunboats each. The season begins in June and ends in November—though whales may be taken before and after that period.

General.—There is a small consumption of maine mussels, cockles, and whelks, various squids and octopi, and the "Mutton Fish" or "Ear-shell" (*Haliotis*), but they are not of great importance in the food supply. In the western areas of the State there is a fair consumption of the Freshwater Crayfish (*Astacopsis*), which attain a large size. A few are sent to Sydney markets.

VALUE OF PRODUCTION.

Excluding crayfishes and prawns sold locally in coastal districts, and not recorded, the product of the whale and dolphin fisheries, freshwater crayfishes ("Lobsters") and shrimps sold in country districts, molluscs other than oysters, and a small amount of fish used for fertiliser and oil, the value of the production from fisheries of New South Wales for the year 1916 was approximately £293,558, made up as follows:—

						£
Fresh Fish...	212,891 baskets	...	...	...	...	212,891
Crayfish	... 10,135 dozen	...	...	...	...	7,601
Prawns	... 7,887 baskets	...	...	...	...	13,802
Crabs	... 1,135 baskets	...	...	...	...	851
Oysters	... 23,365 sacks	...	...	...	...	58,413
Total Value						£293,558

During the same period the weight of fish secured by the State trawlers was approximately 1,900,380 lb.—equal to 31,673 baskets—valued on the wharves at £23,755. In addition, 43,618 lb. of fish, valued at £545, were received by direct consignment from coastal fishermen. The fish were retailed in the State fish-shops at prices ranging from 3d. to 9d. per lb. The total value of the production resulting from the ordinary fisheries and from trawling during 1916 was £317,858.

The value of fish, fresh and preserved, imported into the State of New South Wales during 1916 was £357,388.

FISH PRESERVING.

The fishes especially suitable for treatment, by canning, smoking, or salting, include pilchard, sandy sprat, anchovy, tailer, samson fish, cow-anjung, kingfish, trevally, mackerel, bonito, little tunny, southern tunny, and Spanish mackerel. Canneries have been established at various times in New South Wales, but the irregularity of supplies under present conditions has militated against their success.

FISHERIES INVESTIGATION.

In 1898 the s.s. "Thetis" was equipped by the Government to conduct an extensive investigation of the waters along the coast of New South Wales. The outcome of the expedition was a considerable addition to the knowledge of Australian deep-sea fauna, but from a commercial point of view no practical results were obtained.

Subsequent to the appointment of the Fisheries Board, comprehensive investigations were undertaken regarding rates of growth, life conditions, and habits of various fishes, prevailing currents, and their correlation to spawning migration, location of spawning grounds, &c., and acclimatisation of species not indigenous to Australian waters.

In 1907 the Commonwealth Government decided to conduct investigations regarding Australian deep-sea fisheries, and the Federal ship "Endeavour" was built for the purpose. Operations were commenced in March, 1909, trawling being the principal method used. The "Endeavour" was lost with all on board in the year 1914, but as the result of cruises along the New South Wales coast it was fully demonstrated that trawling is commercially possible over large areas of the sea bottom, particularly to the south of Sydney. Since the initiation of the Government trawling scheme, further extensive fishing grounds have been discovered.

FISH CULTURE AND ACCLIMATISATION.

Experiments in the acclimatisation of non-indigenous fishes, such as carp and trout, have met with success in New South Wales, particularly in regard to Californian rainbow trout, which has been introduced in many mountain streams. Trout fishing now constitutes an important attraction for tourists and sportsmen in the districts watered by the Murrumbidgee and Snowy Rivers and their tributaries. A trout hatchery is maintained at Prospect, and considerable numbers of young fry are distributed annually.

POTENTIALITIES OF NEW SOUTH WALES FISHERIES.

It is easily possible, without exhausting the grounds, to obtain a greatly increased output of fresh fish from the coastal lakes and estuaries, which now constitute the principal sources of supply, as well as from the ocean waters. Increased and greater facilities for transport, and improved methods of handling the fish on arrival at the markets, to avoid loss of time in reaching the consumer, would provide regular daily employment for many fishermen,

who, under present conditions, work intermittently. The output of Murray cod from the waters of the Murray River system would greatly increase, if more convenient transport arrangements were made. It is not in these places, however, that the most extensive development may be expected, but in the ocean waters, and chiefly among the immense shoals of deep-sea fish such as great Tunnies, Spanish Mackerel, Bonito, Mackerel, Kingfish, Tailer, Salmon, and many other truly pelagic fishes, which travel in large shoals. There are also immense quantities of Pilchards, Sprats, and other "Herring-kind," as well as Sea Garfish and others.

For the capture of these fishes special surface-nets, like the American purse-seine, the drift-net, surface trawls, &c., are most suitable.

In addition to the surface fisheries, bottom fishing, by means of the long-line ("Jacob" or Bultow) the trammel-net and the trawl-net, is capable of large development. A very considerable section of the 8,960,000 acres of bottom lying within the 100-fathom line is known to be suited to the operation of the trawl-net.

Crayfishing is also capable of great development, but better means of handling during transport must be introduced to prevent the present waste.

The development of the oyster industry depends simply on a diffusion of that knowledge of successful oyster culture which has begun to manifest itself recently among a number of oyster growers. With intense cultivation, it is not too much to say that one locality—Port Stephens—could produce in one year the whole of the present output of New South Wales.

There is opportunity for the development of a large Mussel fishery as this mollusc may be easily and successfully farmed in a somewhat similar way to oysters, and, in many cases, in waters or in zones of the littoral in which the oyster will not flourish.

The Eden Whaling Industry was a practical failure since 1913. One whale was killed at Twofold Bay in 1914, but although several were seen during 1915 no captures were effected; two were secured in 1916. The absence of whales during the last three seasons is unaccountable, but the industry may be expected to improve as a result of the work already conducted at the latter end of 1912 and 1913. To ensure success the work should be done with shore stations and with steam gunboat whalers, using the most modern equipment.

Seaweed Industry.—There is considerable scope for the development of seaweed industries along the coast, since varied marine flora occur in abundance. Seaweeds are used in the manufacture of certain food products, vegetable isinglass, jellies, condiments, and for decorative purposes; also as fertilisers for the soil, and in the manufacture of iodine; secondary products are common salt, sodium sulphate, potassium chloride, and sulphur.

Sponges.—Many kinds of sponges occur on the coastline. A number of species would be valuable for domestic purposes, and many others would be suitable in various trades. The most valuable from a domestic standpoint, belong to the genera *Hippospongia* and *Euspongia*. The number of sponges to be found on coastal beaches after storms are evidence of the existence of large natural supplies.

OYSTERS AND THEIR CULTIVATION IN NEW SOUTH WALES.

Cultivation is carried out by laying down in suitable places one or other of the following:—Stones, sawn-timber, branches of black or white mangrove, stakes cut from mangrove, oak (*Casuarina*), &c., shingles (made from various timbers), tiles and slates composed of compressed asbestos and cement, as well as empty oyster and other shells.

The available zone of oyster growth is governed largely by the density of the water and varies in the different waters, and in various sections of the same water. Oysters cannot live permanently in water that is either very fresh or very salt, but must have a certain admixture of both. In localities in which the entire body of water is suitable for oyster growth, there is no limit nor zone in the oyster beds; and they may commence near the limits of high-tide, and extend continuously across the bottom of the bed of the estuary to the opposite shore. In the lower, and salter, parts of estuaries and other coastal inlets, the oysters occur in a very narrow and limited zone—usually between tide-marks only. Instances of this may be seen in the Lower Hawkesbury (Broken Bay), Middle Harbour (Port Jackson), Port Hacking, and on the training-walls at the entrances of some of the rivers.

The food of the oyster consists principally of the microscopic plants known as *Diatoms*, which occur in profusion in estuarine waters and wherever there is a soaking from the shore.

The local distribution of growing oysters, in a natural state, depends primarily on two conditions—density of the water, and suitableness of the bottom; but their local distribution under proper systems of cultivation depends principally on the former only, as it is often possible by artificial means to render the bottom suitable, and oysters may be made to grow profusely in many localities in which they would not grow naturally. For instance—and this is only one of many varied cases that might arise—a bottom may consist of soft squelchy mud in which the oyster, if placed there, would gradually sink out of sight. In such a case it may be necessary only to spread a good layer of old oyster or other molluscan shells over the mud bottom. Many intending lessees are misled by first appearances, and are inclined only to take up areas which already show a good deposit of oysters, whereas there may be abundant signs of the suitableness of other areas which have few or no oysters upon them.

There are many oyster areas which show great natural recuperative powers even after serious depletion, but usually a good deal of artificial cultivation is necessary to obtain the new stock in a reasonable time after the first natural stock has been depleted.

Oysters attain their greatest perfection and size in the vicinity of muddy bottoms or bottoms of mud and sand, but none on pure sand, their food supply being most abundant in the vicinity of the mud. They show an enormous fecundity; each one of 2 inches or more in length produces many millions of ova each year, the power of production increasing with size. They also become sexually mature at a very early age, and have been found containing ripe eggs when only three months old. The wonderful fecundity often leads to the belief that a rapid recuperation should always naturally follow the thinning out of oyster beds, and that a few mature oysters should be able to do the work. But, on the contrary, enormous fecundity is an unfailing sign of correspondingly enormous destruction. Millions of oyster spat are deposited, which last only a few days, and multitudes are destroyed at once. At the outset, and when spawning actually takes place, the destructive influences are infertile eggs, unsuitable water, unsuitable catchment, and microscopic enemies; while a large number of the eggs and motile embryos are consumed by the oysters themselves. The common oyster is dioecious, or bi-sexual.

Even after the spat has passed its short free swimming stage and has settled down, it is surrounded by enemies. Among the numerous active enemies are various fishes, boring molluscs, worms, starfishes, and a boring sponge, and among the passive forms are included vegetable and animal

growths in the shape of seaweed, barnacles, mussels, &c., which grow round and gradually envelope the oyster. Other detrimental conditions are the times of unsuitable water, when there are either prolonged freshets or periods of drought, in which the water becomes too salt.

There is no fixed period for the growth of the oysters. Some attain a marketable size in fifteen months, while others might take three, four, or five years to attain the same size; or, indeed, might be so dwarfed as never to attain the size, as oysters that are submitted to a prolonged existence in water of too strong a density always become stunted. The average time taken to produce a marketable oyster ranges from two to three years.

Persons and Boats employed in Oyster Culture.

During 1916 there were 399 men and youths employed in connection with the actual business of oyster cultivation, on the leases, and the number of boats employed in oyster work was 401. In the general term "boats" are included punts of various shapes and sizes, ordinary pulling or sailing boats, and motor launches.

The subjoined table shows the number and value of the boats used during 1916 :—

Description.	Number.	Value.
Boats not more than 24 feet over-all—		£
With motor 	67	6,830
Without motor	307	3,492
Boats more than 24 feet over-all—		
With motor 	20	3,320
Without motor	7	295
Total 	401	13,937

The number of boats varies at different periods of the year, so that the information relating to number and value is approximate only.

RURAL SETTLEMENT.

SETTLEMENT IN LAND DIVISIONS.

The State may be classified for land purposes into five divisions viz., Coast, Tableland, Western Declivity of the Great Dividing Range, Central Plains and Riverina, and the Western Plains. Each Division has its own special character, and its natural resources are characteristic of its climatic conditions. From Sydney as the centre, settlement extended first along the coast, then to the central and more accessible parts of the tableland, following the course of the great inland rivers towards the southern and western parts of the State when pressed by lack of pasturage for the growing flocks and herds, and debouching upon the great plains of the west.

Geographical features and climate have been the primary factors in determining the trend of settlement; and other considerations, such as the fertility of the soil, the distribution of the rainfall, the density of the timber-growth, and the consequent cost and difficulty of clearing, &c., naturally regulated the character of rural settlement in a given locality and determined the purposes to which lands were applied.

Another matter of great importance was the question of communication between the sparsely-settled and the populous centres, with access to a market which would assure to the settler a reasonable prospect of the disposal of his products, and would permit an effort to regulate supply according to demand. In this connection it is worthy of note that agricultural settlement has clung to the closer and more accessible coastal lands; thus, of the 10,856 purely agricultural holdings in 1915-16, those in the Coastal Division numbered 4,806, and in the Tableland, 1,752.

The subjoined statements show the holdings of alienated land classified according to size, the Crown lands attached to such holdings, and the area devoted to agriculture or used for pastoral purposes. The figures for each Division are exclusive of holdings which consist of Crown leases only.

THE COASTAL BELT.

From the County of Cumberland settlement advanced westward, and after the alluvial lands of the Hawkesbury and the Nepean valleys had been occupied, the lower portion of the valley of the river Hunter, abounding with natural resources, agricultural as well as mineral, soon attracted settlers; so that more population is now concentrated in this district than in any other part of New South Wales outside the metropolitan area. Settlement extended gradually to the whole of the watershed of the Hunter and the Manning, particularly along the intermediate river courses such as the Paterson, the Allyn, the Williams, the Kurrah, and the Myall.

The Division of the North Coast, occupied by an agricultural and dairy farming population, exhibits the most satisfactory results as regards settlement, which during recent years has extended very rapidly along the banks of the Hastings, the Macleay, the Bellinger, the Orara, the Clarence, the Richmond, and the Tweed.

Early in the nineteenth century settlement took a southerly direction from the metropolis, and extended along the lower river valleys of the South Coast, where the best lands were alienated in grants of large areas to a few families. Later on, the nature of the country, and a more intelligent conception of the principles which should guide settlement, brought about the

subdivision of some of these large estates into numerous small holdings. The development was, nevertheless, arrested about the period of the Federation of the States. Large numbers of the agricultural and dairy-farming population migrated to the North Coast, the Division losing over 2,000 of its inhabitants between the census years 1901 and 1911. The only county retaining its population, owing to the persistence of the coal-mining industry, was Camden.

A change has been made recently in the statistical year, and for the last two seasons the particulars of rural settlement relate to the year ended the 30th June, and not to the calendar year as formerly.

The figures in the following table show the settlement of the Coastal Division in holdings of one acre and upwards, the total representing the area of alienated lands, or alienated lands in conjunction with Crown lands, at the 30th June, 1916, and are exclusive of parks and reserves within the boundaries of Sydney and suburbs.

Size of Holding.	Number of Holdings.	Area Occupied.			Area for—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, etc.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	25,209	309,654	143,719	453,373	50,900	402,473
51— 100 ...	5,374	424,020	131,303	555,323	44,122	511,201
101— 500 ...	12,927	2,972,838	1,073,135	4,045,973	123,308	3,922,665
501— 1,000 ...	2,085	1,450,728	607,105	2,057,833	29,647	2,028,186
1,001— 3,000 ...	998	1,589,262	707,206	2,296,468	18,469	2,277,999
3,001— 5,000 ...	148	570,485	305,681	876,166	4,194	871,972
5,001—10,000 ...	91	632,889	433,503	1,066,392	2,539	1,063,853
Over 10,000 ...	46	977,020	695,522	1,672,542	3,740	1,668,802
The Coastal Belt	46,878	8,926,896	4,097,174	13,024,070	276,919	12,747,151

The total area of this Division is 22,355,401 acres, of which 8,926,896 acres of alienated land are occupied in holdings of one acre and upwards, and 4,097,174 acres of Crown lands are held in conjunction with the alienated, making a total of 13,024,070 acres. Of this area, 276,919 acres are under crop, and the remainder is used for grazing and other purposes. In addition, there are holdings consisting of Crown lands only, particulars of which are given for each Division at the end of this chapter.

* Holdings under 51 acres represent 53·7 per cent. of the total number, and are generally market-gardens and orchards in the vicinity of towns. The moderate-sized holdings consist mainly of dairy-farms; the area under crop was 276,919 acres, or 7,467 acres more than for the previous year.

Rural settlement in the valleys of the northern coastal rivers, and in the country extending from the sea to the foot-hills of the Great Dividing Range, has proceeded in a way very different from that of the Tableland, which

extends from north to south, and divides the rich agricultural valleys of the coastal rivers and their broken mountainous watersheds from the immense plains of the Western Division.

THE TABLELAND.

After crossing the ranges which form the western boundary of the Coastal Belt, settlement proceeded in the Central Tableland, thence south and north, and later westwards, at first following the courses of the great rivers.

On the Northern Tableland the majority of the settlers are freeholders, tenants constituting a very small section of the occupiers of alienated land. The Central Tableland has not appreciably advanced for some time, and the Southern Tableland has experienced even a decline in its population, although the growing attractions of the Federal Territory may in time enable the Division to recoup itself in this respect.

The following statement shows the progress of rural settlement in the three Divisions of the Tableland at the 30th June, 1916.

Size of Holding.	Number of Holdings	Area Occupied.			Area for—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, etc.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	6,881	97,956	169,188	267,144	18,574	248,570
51— 100 ...	1,844	145,571	207,824	353,395	23,014	330,381
101— 500 ...	6,433	1,679,435	2,340,323	4,019,758	195,067	3,824,691
501— 1,000 ...	2,042	1,429,215	1,486,833	2,916,048	99,555	2,816,493
1,001— 3,000 ...	1,473	2,454,100	1,704,067	4,158,167	97,432	4,060,735
3,001— 5,000 ...	279	1,081,302	733,090	1,814,392	28,001	1,786,391
5,001—10,000 ...	225	1,570,851	678,890	2,249,741	34,195	2,215,546
Over 10,000 ...	144	2,676,983	680,476	3,357,459	29,846	3,327,613
The Tableland ...	19,322	11,135,413	8,000,691	19,136,104	525,684	18,610,420

THE WESTERN DECLIVITY.

The districts situated on the Western Declivity of the Great Dividing Range mark the transition between the agricultural settlements of the Coastal Belt and the Tableland and the purely pastoral settlements of the Great Western Plains. There is a great extent of arable land in the Western Declivity, and although the proportion devoted to cultivation is greater than in any other Division, it is inconsiderable when compared with the total area. Distance from a market has been the principal obstacle to a rapid extension of agriculture; but with expansion of the railway system during recent years, improvement in methods of wheat-growing, and a development in the practice of share-farming, a considerable impetus has been given to this branch of rural industry.

In the South-Western Slope, which is traversed by the principal permanent inland rivers of New South Wales, the land has been alienated to a large extent and immense areas of freehold estate are in the hands of a small number of holders. The progress of rural settlement in the Western Declivity at the 30th June, 1916, is shown in the following table.

Size of Holding.	Number of Holdings.	Area Occupied.			Area for—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, etc.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	5,427	66,313	69,202	135,515	20,752	114,763
51— 100 ...	1,020	79,562	42,971	122,533	30,618	91,915
101— 500 ...	4,759	1,395,784	978,223	2,374,012	529,400	1,844,612
501— 1,000 ...	2,603	1,818,070	1,184,745	3,002,815	588,295	2,414,520
1,001— 3,000 ...	2,029	3,386,167	1,306,865	4,693,032	746,383	3,946,649
3,001— 5,000 ...	383	1,482,093	505,113	1,987,206	225,955	1,761,251
5,001—10,000 ...	232	2,020,290	706,203	2,726,493	213,317	2,513,176
Over 10,000 ...	172	3,590,905	681,066	4,271,971	148,567	4,123,404
The Western Declivity.	16,685	13,839,184	5,474,393	19,313,577	2,503,287	16,810,290

THE CENTRAL PLAINS AND THE RIVERINA.

The portion of the Central Land Division of New South Wales which lies beyond the Western Declivity of the Great Dividing Range constitutes the Division known as the Central Plains and the Riverina. The latter is the southern Division of the series and may be considered as the most important agricultural region of the State, not only on account of the total area alienated, but also from the fact that it contains a considerably greater section under cultivation than any other Division, except the Western Declivity; the average size of the holdings also is comparatively large.

The following statement shows the progress of rural settlement in the Central Plains and the Riverina at the 30th June, 1916.

Size of Holding.	Number of Holdings.	Area Occupied.			Area for—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, etc.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	1,923	21,737	194,317	216,054	5,313	210,741
51— 100 ...	308	24,670	60,576	85,246	7,469	77,777
101— 500 ...	2,153	704,071	910,750	1,614,821	308,640	1,306,181
501— 1,000 ...	2,508	1,786,636	2,013,176	3,799,812	615,500	3,184,312
1,001— 3,000 ...	2,151	3,529,774	3,966,674	7,496,448	798,189	6,698,259
3,001— 5,000 ...	399	1,523,847	1,188,431	2,712,278	181,989	2,530,289
5,001—10,000 ...	299	2,019,048	1,634,834	3,653,882	147,869	3,506,013
Over 10,000 ...	329	11,182,031	4,641,408	15,823,439	170,067	15,653,372
The Central Plains and the Riverina	10,070	20,791,814	14,610,166	35,401,980	2,235,036	33,166,944

THE WESTERN PLAINS.

In the Western Division of the State, settlement progresses slowly, and the population status is maintained by the mining communities of a few counties. The great mining centre of Broken Hill, situated close to the

boundary of South Australia, has attracted a large population, and the copper-fields of Cobar and Wrightville in the region east of the Darling, with a few other places, support several thousand people, but excluding these closely-settled areas, the whole of this vast terrain, greatly exceeding in extent a third of New South Wales, is given up to the depasturing of stock.

The following statement shows the progress of rural settlement in the Western Division at the 30th June, 1916.

Size of Holding.	Number of Holdings.	Area Occupied.			Area for—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, etc.
		acres.	acres.	acres.	acres.	acres.
1— 50 ...	629	6,467	1,256,030	1,362,497	796	1,361,701
51— 100 ...	66	5,510	545,090	550,600	351	550,249
101— 500 ...	198	53,343	8,780,631	8,833,974	1,009	8,832,965
501— 1,000 ...	115	80,040	10,195,639	10,275,679	1,334	10,274,345
1,001— 3,000 ...	105	178,781	16,198,064	16,376,845	1,574	16,375,271
3,001— 5,000 ...	40	156,290	9,310,501	9,466,791	862	9,465,929
5,001—10,000 ...	38	257,220	7,354,771	7,611,991	609	7,611,382
Over 10,000 ...	31	858,021	7,078,662	7,936,683	668	7,936,015
The Western Plains	1,222	1,595,672	60,819,388	62,415,060	7,203	62,407,857

The proportion of land alienated is less than 2 per cent. of the total area, being an aggregate of 1,595,672 acres out of 80,368,498 acres which the Division is estimated to contain. The land in the Western Division can be alienated only by auction, or it can be held under lease from the Crown. The area of Crown lands held is therefore very large, 60,819,388 acres being attached to alienated holdings. The general character of the country militates against agricultural production and the successful rearing of cattle, and apart from the silver, gold, copper, and opal fields already mentioned, sheep-breeding is practically the only industry, except in the vicinity of townships, where market-gardens and fruit orchards are cultivated.

ALL DIVISIONS.

The following statement shows the number and area of alienated holdings in New South Wales, and summarises the particulars given in the foregoing tables for the five principal Divisions of the State :—

Size of Holding.	Number of Holdings.	Area Occupied.			Area for—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, etc.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	40,069	502,127	1,932,456	2,434,583	96,335	2,338,248
51— 100 ...	8,612	679,333	987,764	1,667,097	105,574	1,561,523
101— 500 ...	26,470	6,805,471	14,083,067	20,888,538	1,157,424	19,731,114
501— 1,000 ...	9,353	6,564,689	15,487,498	22,052,187	1,334,331	20,717,856
1,001— 3,000 ...	6,756	11,138,084	23,882,876	35,020,960	1,662,047	33,358,913
3,001— 5,000 ...	1,249	4,814,017	12,042,816	16,856,833	441,001	16,415,832
5,001—10,000 ...	946	6,500,298	10,808,201	17,308,499	398,529	16,909,970
Over 10,000 ...	722	19,284,960	13,777,134	33,062,094	352,888	32,709,206
Total, N.S.W. ...	94,177	56,288,979	93,001,812	149,290,791	5,548,129	143,742,662

ALL HOLDINGS.

In addition to the alienated holdings—with or without Crown lands attached—there were at the 30th June, 1916, holdings consisting of Crown lands only numbering 7,921, the total area thus occupied being 25,009,916 acres, of which 246,706 acres were under crops, the remainder being utilised mainly for grazing purposes.

The total number of holdings of one acre and upwards was therefore 102,098, aggregating 174,300,707 acres—comprising 56,288,979 acres of alienated lands and 118,011,728 acres of Crown lands.

Since 1912 particulars have been available respecting the number and total area of holdings of various sizes, irrespective of the conditions governing tenure. The results shown in the following table are inclusive of all holdings of an acre and upwards, the actual land held being taken as the basis for each area group—whether the holdings are classed as alienated only, as alienated with Crown lands attached, or as Crown lands only.

Size of Holding.	Number of Holdings.		Total Area.		Percentage in each Series.			
	1912.	1916.*	1912.	1916.*	Holdings.		Area.	
					1912.	1916.*	1912.	1916.*
acres.			acres.	acres.				
1— 50	39,677	41,591	501,199	515,319	40·38	40·74	0·29	0·30
51— 100	8,084	8,163	629,909	635,448	8·23	8·00	0·36	0·37
101— 500	24,299	24,653	6,277,671	6,422,386	24·73	24·15	3·60	3·68
501— 1,000	9,549	10,373	6,776,643	7,419,970	9·72	10·15	3·88	4·25
1,001— 3,000	10,069	10,544	17,317,947	18,168,186	10·25	10·33	9·92	10·42
3,001— 5,000	2,480	2,563	9,578,039	9,893,317	2·52	2·51	5·49	5·67
5,001— 10,000	1,942	2,071	13,155,684	14,205,857	1·98	2·03	7·54	8·15
10,001— 20,000	964	967	13,097,932	13,184,521	0·98	0·95	7·50	7·57
20,001— 50,000	703	711	21,180,029	21,315,987	0·71	0·70	12·13	12·23
50,001—100,000	225	213	15,668,791	14,804,661	0·23	0·20	8·97	8·50
Over 100,000	265	249	70,393,994	67,735,055	0·27	0·24	40·32	38·86
Total ...	98,257	102,098	174,577,838	174,300,707	100·00	100·00	100·00	100·00

*Year ended 30th June.

The general tendency of areas in the holdings up to 20,000 acres is to increase, both absolutely and proportionately. In the groups over 20,000 acres the actual reduction of area during the last three years was 3,387,111 acres, but by far the greatest number of the largest holdings are in the Western Plains and consist chiefly of Crown lands.

THE CLOSER SETTLEMENT MOVEMENT.

In discussing Land Legislation and Settlement an account was given of the progress of the movement for the extension of rural settlement on relatively small areas, which was inaugurated with the Closer Settlement Act of 1901, and adapted by subsequent Acts to prevailing conditions. The subjoined figures for the year ended the 30th June, 1916, indicate to some extent the effect of the operation of the successive Acts of this character upon the holdings of the State.

The acreage of alienated land in holdings in each series is given, together with the area cultivated, and a column showing the ratio of the latter to the former.

Size of Holding.	Alienated Area in Holdings.		Ratio of Cultivated Area to Total Alienated Area in Holdings.
	Total.	Cultivated.	
acres.	acres.	acres.	per cent.
1— 50	502,127	87,920	17·51
51— 100	679,333	99,890	14·74
101— 500	6,805,471	1,094,428	16·08
501— 1,000	6,564,689	1,268,049	19·32
1,001— 1,500	4,341,877	736,140	16·95
1,501— 3,000	6,796,207	880,706	12·96
3,001— 5,000	4,814,017	433,204	9·00
5,001—10,000	6,500,298	391,305	6·02
Over 10,000	19,284,960	352,313	1·83
Total	56,238,979	5,343,955	9·49

The ratio of the area under crops to the total held invariably decreases as the size of the holding increases, and for the whole State the cropped area was 9·49 per cent. of the total alienated in rural holdings of upwards of an acre.

It may be rash to argue from the foregoing that this proportion indicates the average extent to which Agriculture is capable of profitable pursuit in New South Wales under present conditions; or even that the average area of land so utilised is the maximum necessary for the productive energies of the people in this respect. The character of the State's primary industries is changing, and large pastoral holdings are being yielded gradually to the production of wheat instead of wool. The appeal of the Imperial Government for an increase in wheat production, already referred to, met with a remarkable response in this State; and that it was not sustained into the succeeding season was no fault chargeable to a lack of patriotism or of energy on the part of the agriculturists, but to the impossibility of securing ocean freights. Moreover, agricultural production is not limited in any country by local requirements, as a reference to the table of the world's cereal output abundantly shows. Farming on a large scale is characteristic of the American States of the Middle West, and this type of production is gradually securing representation in the central and southern parts of New South Wales. The percentage of cultivated area has increased in every group during the year 1915-16, as compared with that of 1914-15. The number of acres in alienated holdings has increased by 795,123, and the number cultivated by 879,440. The high prices of stock and wool have since caused a reversion in the methods of primary industry, and many areas placed under the plough for the record crops of the year 1915-16 will be utilised again for grazing purposes in order to counteract to some extent the prospective shortage in meat.

The following comparative statement shows the number and area of holdings of alienated lands in area groups as at the 31st December, 1905, when the closer settlement policy was operating actively, and at the 30th June, 1916, together with the proportions in each series :—

Size of Holding.	Number of Holdings.		Alienated Area.		Percentage in Each Series.			
					Holdings.		Area.	
	1905.	1916.	1905.	1916.	1905.	1916.	1905.	1916.
acres.			acres.	acres.				
1— 50 ...	32,413	40,069	488,622	502,127	42·02	42·55	1·00	0·89
51— 100 ...	9,217	8,612	729,306	679,333	11·95	9·14	1·50	1·21
101— 500 ...	22,268	26,470	5,508,402	6,805,471	28·87	28·11	11·31	12·10
501— 1,000 ...	6,735	9,353	4,725,720	6,564,689	8·73	9·93	9·70	11·66
1,001— 1,500 ...	2,391	3,538	2,949,188	4,341,877	3·10	3·76	6·05	7·71
1,501— 3,000 ...	1,996	3,218	4,225,260	6,796,207	2·59	3·42	8·68	12·07
3,001— 5,000 ...	798	1,249	3,086,162	4,814,017	1·03	1·32	6·33	8·55
5,001— 10,000 ...	598	946	4,280,967	6,500,298	0·78	1·00	8·78	11·55
Over 10,000 ...	720	722	22,734,915	19,284,960	0·93	0·77	46·65	34·26
Total ...	77,136	94,177	48,728,542	56,288,979	100·00	100·00	100·00	100·00

During the period extending from the 31st December, 1905, to the 30th June, 1916, the number of holdings increased from 77,136 to 94,177, or by 22·1 per cent., and the area from 48,728,542 acres to 56,288,979 acres, or by 15·52 per cent. There have been increases in the number and acreage of all the area series, except for the groups, 51–100 acres, and over 10,000 acres. In the smaller series, the number and area of the holdings have decreased proportionately, the average area of holdings in this class remaining stationary. In the area group over 10,000 acres, the reduction of the very large holdings has been concurrent with a percentage increase in all but two of the smaller groups.

If account be taken of the Crown lands held by a number of occupiers in addition to the alienated areas, the proportionate ratios of the various groups is altered considerably. The following comparative statement shows the area in occupation, inclusive of the Crown lands attached to estates in each area series as at the 31st December, 1905, and the 30th June, 1916. The estates have been classified, as in previous tables, according to the extent of private land only.

Size of Holding.	Area Occupied, including Crown Lands Attached to Alienated Holdings.		Percentage Area in Each Series.	
	1905.	1916.	1905.	1916.
acres.	acres.	acres.		
1— 50 ...	1,881,648	2,434,583	1·27	1·63
51— 100 ...	2,108,807	1,667,097	1·42	1·12
101— 500 ...	17,323,964	20,888,538	11·65	13·99
501— 1,000 ...	20,180,611	22,052,187	13·57	14·77
1,001— 1,500 ...	11,760,861	13,472,914	7·91	9·02
1,501— 3,000 ...	20,098,966	21,548,046	13·51	14·43
3,001— 5,000 ...	16,248,004	16,856,833	10·93	11·29
5,001— 10,000 ...	15,045,261	17,308,499	10·12	11·60
Over 10,000 ...	44,030,630	33,062,094	29·62	22·15
Total ...	148,678,752	149,290,791	100·00	100·00

RURAL HOLDINGS AND TENURES.

Rural holdings may consist of alienated lands, or of Crown lands, or of both, and are classifiable in five distinct groups, according to the tenures under which they are held, viz. : (1) Freehold lands occupied by the owner, (2) rented freeholds, (3) combined freehold and rented lands, (4) alienated lands, rented or freehold, with attached Crown lands, and (5) Crown lands only.

The following statement shows the number of occupiers, as at the 30th June, 1916, under the various tenures in the five Territorial Divisions of New South Wales.

Division.	Number of Occupiers of—					Total.
	Freeho'd.	Private Rented.	Freehold and Private Rented.	Holdings of Alienated and Attached Crown Lands.	Separate Crown Lands Holdings.	
The Coastal Belt	31,987	8,923	2,515	3,453	1,016	47,894
The Tableland	10,476	1,912	964	5,970	1,348	20,670
The Western Declivity... ..	11,316	1,174	564	3,631	1,616	18,301
The Central Plains and the Riverina	6,727	413	235	2,695	3,018	13,088
The Western Plains	674	57	12	479	923	2,145
New South Wales	61,180	12,479	4,290	16,228	7,921	102,098

The majority of holders owned the land they occupied; the total number of occupiers of alienated lands, with or without attached Crown lands, was 94,177, of whom 61,180, or 64·9 per cent., occupied their own freeholds; and of 16,228 holdings which were partly Crown leases, 14,745 consisted of freeholds owned by the occupiers, and worked in conjunction with the Crown leases.

A comprehensive view of the extent to which the land contained within the boundaries of the State is being utilised is shown in the following table, exhibiting the area taken up in holdings of one acre and over in each Division of New South Wales, according to the class of tenure at the 30th June, 1916.

Division.	Area Alienated in Holdings.			Crown Lands.		Total Area in Holdings.
	Freehold.	Rented.	Total.	Attached to Alienated Holdings.	In Separate Holdings.	
	acres.	acres.	acres.	acres.	acres.	acres.
The Coastal Belt	7,479,501	1,447,395	8,926,896	4,097,174	454,105	13,478,175
The Tableland	10,270,441	864,972	11,135,413	8,000,691	1,102,254	20,238,358
The Western Declivity	13,217,331	621,853	13,839,184	5,474,393	1,824,846	21,138,423
The Central Plains and the Riverina	20,148,649	643,165	20,791,814	14,610,166	6,385,091	41,787,071
The Western Plains	1,545,567	50,105	1,595,672	60,819,388	15,243,620	77,658,680
New South Wales	52,661,489	3,627,490	56,288,979	93,001,812	25,009,916	174,300,707

Of the total area occupied, 32·3 per cent. was freehold, and 67·7 per cent. was leased from the Crown. Considerably over three-fifths of the Crown lands so leased were in the Western Division, and utilised almost exclusively for depasturing stock. In the Division of the Central Plains and the Riverina 48·2 per cent. of the land occupied was freehold.

Tenancy, as understood in older settled communities overseas, has made comparatively little progress, 93·6 per cent. of the alienated land being in the occupancy of the proprietors; but in some districts the system of working on shares has been instituted—the owner providing the land and the capital for the cultivation of the soil, and the farmer supplying the labour and the tools.

AVERAGE AREAS.

The following statement shows the averages of alienated land only, together with the total area of alienated and attached Crown lands occupied, and of holdings under all forms of tenure in the various Divisions of New South Wales for the year ending 30th June, 1916.

Division.	Average Size of Holding.		
	Alienated Area Only.	Alienated and attached Crown Lands.	All Tenures, including Holdings consisting of Crown Lands Only.
	acres.	acres.	acres.
The Coastal Belt	190	278	281
The Tableland	576	990	979
The Western Declivity	829	1,158	1,515
The Central Plains and the Riverina	2,065	3,516	3,193
The Western Plains	1,306	51,076	36,205
New South Wales	598	1,585	1,707

The following table shows the average size of holdings of alienated lands at intervals since 1880 :—

Year.	Average size of Holding.	Year.	Average size of Holding.
	acres.		acres.
1880	694	1910	596
1885	778	1911	592
1890	787	1912	593
1895	699	1913	591
1900	663	1914-15	593
1905	632	1915-16	598

The average size of holdings varied for the years given from 787 acres in 1890 to a minimum of 591 in 1913. It will be noted that, although the decline in the average area has been general, it has not been continuous, and after reaching the lowest point in 1913, it advanced in 1914-15, and even more markedly in 1915-16.

EXTENT OF ALIENATION.

In connection with the progress of land settlement, it has been shown that the total area of lands alienated—and in process of alienation—was 56,288,979 acres. The leased areas amounted to 118,011,728 acres, making 174,300,707 acres more or less removed from settlement; and, exclusive of the Federal Capital Territory, leaving a balance of only 23,758,173 acres, including roads, unoccupied reserves, lands unsuitable for settlement, and water surface.

The proportions of the several Divisions of the State which have been alienated in holdings are shown in the following rates derived from the figures already quoted.

Division.	Percentage of Total Area Contained in—			
	Alienated Lands.	Crown Lands.		Total Holdings.
		Attached.	Separate.	
The Coastal Belt	39·93	18·33	2·03	60·29
The Tableland	43·11	30·97	4·27	78·35
The Western Declivity	57·06	22·57	7·52	87·16
The Central Plains and the Riverina	45·37	31·88	13·93	91·18
The Western Plains	1·99	75·68	18·97	96·63
New South Wales	28·34	46·82	12·59	87·75

The foregoing table of ratios shows that slightly less than 88 per cent. of the total area contained within the boundaries of the State is occupied in holdings of 1 acre and upwards. The highest proportion of absolute alienation, 57·06 per cent. of the area of the Division, has taken place in the Western Declivity; and the lowest 1·99 per cent., in the Western Plains; but taking the total area of holdings, the Western Division shows the maximum proportion of its area—96·63 per cent.—removed from immediate further settlement; the high proportions of 91·18 per cent. for the Central Plains and the Riverina, and 87·16 for the Western Declivity show that there is but little land now available in these regions west of the Tableland for rural occupation.

THE PROGRESS OF ALIENATION.

Excluding from consideration land held simply under lease from the Crown, there were in the State of New South Wales on the 30th June, 1916, 94,177 holdings of 1 acre and upwards in extent, comprising land acquired from the Crown by grant or by purchase, with, in some cases, areas of Crown lands attached thereto.

The number of these holdings as returned by occupiers, and the alienated area in quinquennial periods since 1880 are shown herewith, together with similar particulars for the year 1915–16.

Year.	Alienated Holdings.		Year.	Alienated Holdings.	
	Number.	Area.		Number.	Area.
1880	39,992	acres. 27,765,318	1905	77,136	acres. 48,728,542
1885	43,727	34,031,104	1910	87,503	52,164,454
1890	49,960	38,959,225	1915*	93,642	55,493,856
1895	60,529	42,321,926	1916*	94,177	56,288,979
1900	69,439	46,043,244			

* At the 30th June.

The largest absolute increases in the number of holdings occurred in the intervals 1890-5 (10,569) and 1905-10 (10,367), while the greatest absolute increase in the area alienated—over 6 million acres—occurred between 1880 and 1885.

The percentage increases in the quinquennial periods from 1880, were as follows :—

Period.	Rate of Increase per cent. in—		Period.	Rate of Increase per cent. in—	
	Number of Holdings.	Area Alienated.		Number of Holdings.	Area Alienated.
		acres.			acres.
1880-1885	9.3	22.6	1911	3.1	2.4
1885-1890	14.3	14.4	1912	1.5	1.7
1890-1895	21.2	8.6	1913	1.5	1.1
1895-1900	14.7	8.8	1915	0.8	1.1
1900-1905	11.1	5.8	1916	0.6	1.4
1905-1910	13.4	7.1			

The subjoined table shows the number of alienated holdings at quinquennial intervals since 1900. In the classification of holdings according to size, as shown in this and in subsequent tables, the area of Crown land attached to alienated holdings has not been taken into consideration, and the size of a holding represents the extent only of the alienated land which it contains.

Size of Holding.	1900.	1905.	1910.	1915.*	1916.*
acres.	No.	No.	No.	No.	No.
1— 50 ...	23,155	32,413	37,272	39,640	40,069
51— 100 ...	8,929	9,217	9,159	8,799	8,612
101— 500 ...	20,504	22,268	25,323	23,657	26,470
501— 1,000 ...	6,105	6,735	7,911	9,098	9,353
1,001— 1,500 ...	1,939	2,391	2,922	3,477	3,538
1,501— 3,000 ...	1,792	1,996	2,488	3,144	3,218
3,001— 5,000 ...	733	798	985	1,194	1,249
5,001— 10,000 ...	579	598	738	932	946
Over 10,000 ...	703	720	705	701	722
Total ...	69,439	77,136	87,503	93,642	94,177

* At the 30th June.

The holdings in the first area-group are, for the greater part, in the vicinity of towns, and consist mainly of gardens or orchards, apart from those used for residential purposes only. The large increase in their number, representing over 76 per cent. since 1895, is naturally to be expected from the steadily extending demand made by an increasing urban population for market-garden produce. In 1895 the holdings having an area of 51 to 1,500 acres numbered 34,227, while in 1916 they numbered 47,973, showing an advance of 40 per cent., which is considerably lower than the rate of increase, over 71 per cent., in the holdings of 1,501 acres and upwards, which numbered 3,580 in 1895 and 6,135 in 1916.

The area of the alienated holdings as returned by occupiers, in quinquennial periods since 1900 is given below :—

Size of Holding.	1900.	1905.	1910.	1915.*	1916.*
acres.	acres.	acres.	acres.	acres.	acres.
1— 50 ...	468,563	488,622	503,677	501,948	502,127
51— 100 ...	707,865	729,306	722,604	693,607	679,333
101— 500 ...	5,067,934	5,508,402	6,346,299	6,843,888	6,805,471
501— 1,000 ...	4,262,043	4,725,720	5,526,680	6,375,532	6,564,689
1,001— 1,500 ...	2,396,373	2,949,188	3,589,523	4,238,642	4,341,877
1,501— 3,000 ...	3,805,618	4,225,260	5,270,697	6,647,187	6,796,207
3,001— 5,000 ...	2,844,111	3,086,162	3,771,576	4,599,866	4,814,017
5,001—10,000 ...	4,098,686	4,280,967	5,120,548	6,377,599	6,500,298
Over 10,000 ...	22,392,051	22,734,915	21,312,847	19,185,787	19,234,960
Total ...	46,043,244	48,728,542	52,164,454	55,493,856	56,238,979

* At the 30th June.

ENCLOSED LANDS.

The greater portion of the alienated rural lands of the State has been enclosed. The following figures for quinquennial years since 1891 show the rate at which the enclosure has proceeded, and the small proportion of alienated holdings which yet remains to be similarly treated.

Year.	Area Enclosed.	Area Unenclosed.	Total Area of Holdings.	Unenclosed per cent. of Total Area of Holdings.
	acres.	acres.	acres.	
1891	37,347,172	2,713,114	40,060,286	6.8
1896	41,803,983	1,663,229	43,467,212	3.8
1901	45,027,795	1,590,030	46,617,825	3.4
1906	48,121,774	1,294,109	49,415,883	2.6
1911	52,473,021	933,863	53,406,884	1.7
1915-16	55,431,273	857,706	56,288,979	1.5

PURPOSES FOR WHICH HOLDINGS ARE USED.

Analysis of the main purposes for which rural holdings of 1 acre and upwards are used, shows that of 102,098 holdings, inclusive of 7,569 which consist of Crown Lands only, 33.7 per cent. are single-purpose holdings, being devoted to one or other of the three main branches of rural industry, viz., agriculture, dairying, or grazing; of the remainder, over 52 per cent. are devoted to agriculture in conjunction with dairying or grazing, or to both.

The following statement shows, according to the Divisions of the State, the numbers of such rural holdings for the year 1915-16; and their principal method of utilisation under each head.

Division.	Single-purpose Holdings.				Dual-purpose Holdings.			Residential, Mining, etc.
	Agriculture.	Dairying.	Grazing.	Total.	Agriculture, with Dairying, or with Grazing.	Other.	Total.	
The Coastal Belt ...	4,806	5,801	8,284	18,891	8,158	2,227	10,385	18,618
The Tableland ...	1,752	188	6,557	8,497	6,544	218	6,762	5,411
The Western Declivity... ..	2,115	57	3,648	5,820	8,060	119	8,188	4,293
The Central Plains and the Riverina...	2,064	22	3,888	5,974	5,234	66	5,300	1,814
The Western Plains	119	6	1,120	1,245	68	28	96	804
Total, 1915-16	10,856	6,074	23,497	40,427	28,073	2,658	30,731	30,940

In the eight and a-half years, 1907-1916, the accretion in the total number of rural holdings amounted to nearly 18 per cent., the number returned as single-purpose holdings having increased by nearly 26 per cent., while there had been a decrease in the number of double-purpose holdings amounting to over 7 per cent.

THE EXTENT OF CULTIVATION.

The total area under crops for the season 1915-16, in all classes of holdings, was 5,794,835 acres, made up as follows:—

Division.	Area under Crops.					Balance used for Pasturage, Grazing, etc.	Proportion of Cropped Area to Total Area of Holdings.
	Alienated Lands.		Crown Lands.		Total.		
	Freehold.	Private Rented.	Attached to Holdings.	Separate.			
	acres.	acres.	acres.	acres.	acres.	acres.	per cent.
The Coastal Belt...	206,799	69,552	568	1,684	278,603	13,199,572	2.1
The Tableland ...	462,351	61,500	1,833	4,738	530,422	19,707,936	2.6
The Western Declivity ...	2,282,218	113,104	107,965	68,687	2,571,974	18,566,449	12.2
The Central Plains and the Riverina	2,074,169	68,965	91,902	168,478	2,403,514	39,383,557	5.8
The Western Plains	5,132	165	1,906	3,119	10,322	77,648,358	0.01
New South Wales...	5,030,669	313,286	204,174	246,706	5,794,835	168,505,872	3.3

The area under crops on freehold lands represented 92.2 per cent. of the total area of rural holdings under crop, or 9.5 per cent. of the holdings of alienated lands; the area of leasehold lands under crop as compared with the total leasehold area was less than 0.5 per cent., but the area under crops on holdings of Crown lands is insignificant when compared with the total extent of rural holdings.

The following table shows the difference in cultivation in each series since 1905. The figures include the cropped area of Crown lands, and, therefore, differ from those shown in an earlier table, which related to alienated land only.

Size of Holding.			Area Cultivated.			
			Total.		Percentage in each Series.	
			1905-6.	1915-16.	1905-6.	1915-16.
acres.			acres.	acres.		
1 — 50 ...			110,893	96,335	3.91	1.66
51 — 100 ...			128,461	105,574	4.53	1.82
101 — 500 ...			788,210	1,157,424	27.77	19.97
501 — 1,000 ...			584,119	1,334,331	20.58	23.03
1,001 — 1,500 ...			258,840	760,640	9.12	13.13
1,501 — 3,000 ...			295,782	901,407	10.42	15.55
3,001 — 5,000 ...			140,014	441,001	4.93	7.61
5,001 — 10,000 ...			137,703	398,529	4.85	6.88
Over 10,000 ...			314,891	352,888	11.10	6.09
On holdings consist- ing of Crown lands only ...			79,168	246,706	2.79	4.26
Total ...			2,838,081	5,794,835	100.00	100.00

In proportion to the total cultivation, it is apparent that the extension of agriculture had taken place mainly on estates from 501 to 10,000 acres, the increase being most noticeable in the groups 1,501 to 3,000, 1,001 to 1,500, 3,001 to 5,000, 501 to 1,000, and 5,001 to 10,000 acres, while the proportionate cropped area of "Crown lands only" increased from 2.79 per cent. of the total under cultivation in 1905-6 to 4.26 per cent. in 1915-16. The proportionate decrease in the cultivation of the small holdings is due mainly to the preference now given to dairy farming in the Coastal Belt, where the majority of such holdings are situated. Apart, however, from this proportional difference, there have been actual decreases as well as increases in the cultivated area of the various groups, which require a further definite reference. It is true that there was an actual decrease in the area cultivated of 13.12 per cent. in the first group (1 to 50 acres) and of 17.82 per cent. in the second (51 to 100 acres); but the groups, 101 to 500 and over 10,000 acres, though proportionately decreasing during the decennium under review, had increased in actual area under cultivation, the first by 46.84 per cent. and the second by 12.07 per cent. The actual increases of area under cultivation for the other groups of the series were as follow:—From 3,001 to 5,000 acres, 214.68 per cent.; Crown lands only, 214.34 per cent.; 1,501 to 3,000 acres, 204 per cent.; 1,001 to 1,500 acres, 193.86 per cent.; 5,001 to 10,000 acres, 189.40 per cent.; and 501 to 1,000 acres, 128.44 per cent.

GRASSED LANDS.

A considerable area of alienated enclosed land is under sown grasses; on Crown lands also the area grassed is appreciable. The following table shows the extension of the area under sown grasses since 1896.

Season.	Area under Sown Grasses on—		Total.
	Alienated Land.	Crown Lands.	
	acres.	acres.	acres.
1896-7	333,223	50,787	384,016
1901-2	452,201	15,638	467,839
1906-7	669,173	23,458	697,631
1911-12	1,059,956	59,808	1,119,764
1912-13	1,100,229	52,220	1,152,449
1913-14	1,175,753	58,702	1,234,455
1914-15	1,200,715	50,738	1,251,453
1915-16	1,175,976	71,123	1,247,099

The area of alienated holdings ringbarked, partially cleared, and under native grasses in 1915-16, was approximately 38 $\frac{1}{4}$ million acres, and on Crown lands nearly 34 $\frac{1}{2}$ million acres.

HOLDINGS IN AREA SERIES.

The following table shows the number of holdings of various sizes composed of alienated and attached Crown lands for the year 1915-16.

Size of Holding.	Freehold.	Private Rented.	Combined Freehold and Private Rented.	Combined Alienated and Crown Lands.	Total.
acres.	No.	No.	No.	No.	No.
1— 50	30,383	6,858	1,245	1,583	40,069
51— 100	5,176	1,730	424	1,232	8,612
101— 500	15,211	3,237	1,551	6,471	23,470
501— 1,000	5,454	415	503	2,981	9,353
1,001— 1,500	2,087	112	208	1,131	3,533
1,501— 3,000	1,701	83	198	1,236	3,218
3,001— 5,000	577	25	72	575	1,249
5,001— 10,000	402	17	58	469	946
10,001— 15,000	91	1	19	172	283
15,001— 20,000	37	...	4	87	123
20,001— 30,000	33	1	2	109	145
30,001— 40,000	10	...	2	42	54
40,001— 50,000	6	...	2	28	36
Over 50,000	12	...	2	62	76
Total	61,180	12,479	4,290	16,228	94,177

The total number of occupiers of freeholds only is 61,180, the proportion to the total number of occupiers being fairly constant in each size of holdings. Tenants of private lands, who number 12,479, are far more numerous in the smaller classes of holdings, and rapidly diminish both in number and in proportion as estates become larger. The same rule obtains with regard to holders of freehold and private rented land, who number only 4,290. The persons who occupy alienated areas with Crown lands attached number 16,228, and over 45 per cent. of the holdings over 1,500 acres in extent are in this category.

Comparison of the relation of the various classes to the total number of holdings in 1913 and 1915-16 shows a slight increase in the proportion of freeholds, but on the whole the variations are slight.

Class.	1913. (31st December.)		1916. (30th June.)	
	Holdings.	Percentage of Total.	Holdings.	Percentage of Total.
Freehold	58,376	62·85	61,180	64·06
Private-rented	13,040	14·04	12,479	13·25
Combined freehold and private-rented ...	4,433	4·77	4,290	4·66
Combined alienated and Crown land ...	17,033	18·34	16,228	17·23
Total	92,882	100·00	94,177	100·00

THE AREA OF HOLDINGS.

The following table shows the area of alienated holdings classified as freehold, private-rented, and with attached Crown lands, together with the percentage of each class to the total area occupied as at the 30th June, 1916.

Size of Holding.	Area Occupied.				Percentage of Total Occupied.			
	Freehold.	Private Rented.	Crown Lands Attached to Alienated.	Total.	Freehold.	Private Rented.	Crown Lands Attached to Alienated.	Total.
acres.	acres.	acres.	acres.	acres.				
1- 50	402,474	99,653	1,932,456	2,434,583	0·27	0·07	1·29	1·63
51- 100	519,394	159,939	987,764	1,667,097	0·35	0·11	0·66	1·12
101- 500	5,836,866	968,605	14,083,067	20,888,538	3·91	0·65	9·43	13·99
501- 1,000	6,037,481	527,208	15,487,498	22,052,187	4·04	0·35	10·38	14·77
1,001- 1,500	4,028,120	313,757	9,131,037	13,472,914	2·70	0·21	6·12	9·03
1,501- 3,000	6,357,255	438,952	14,751,839	21,548,046	4·26	0·29	9·88	14·43
3,001- 5,000	4,511,015	303,002	12,042,816	16,856,833	3·02	0·20	8·07	11·29
5,001-10,000	6,080,057	420,241	10,808,201	17,308,499	4·07	0·28	7·24	11·59
10,001-15,000	3,288,720	148,982	5,023,081	8,460,783	2·20	0·10	3·37	5·67
15,001-20,000	2,174,221	65,903	1,867,627	4,107,751	1·46	0·04	1·25	2·75
20,001-30,000	3,420,107	109,259	3,056,644	6,586,010	2·29	0·07	2·05	4·41
30,001-40,000	1,812,438	28,750	716,275	2,557,463	1·22	0·02	0·48	1·72
40,001-50,000	1,559,678	11,879	1,387,181	2,958,738	1·04	0·01	0·93	1·98
Over 50,000	6,633,663	31,360	1,726,326	8,391,349	4·44	0·02	1·16	5·62
Total ...	52,661,489	3,627,490	93,001,812	149,290,791	35·27	2·42	62·31	100·00

The following table shows the alienated area and the Crown lands attached thereto, classified according to the size of the privately-owned land at the 30th June, 1916.

Size of Holding.	Holdings.		Area Alienated.		Crown Lands Attached to Alienated Lands.	
	Number.	Percentage of Total Holdings.	Acres.	Percentage of Total Alienated Area.	Acres.	Percentage of Total Crown Lands Attached to Alienated.
acres.						
1— 15 ...	28,988	30.78	135,338	0.24	258,758	0.28
16— 50 ...	11,081	11.77	366,789	0.65	1,673,698	1.80
51— 100 ...	8,612	9.14	679,333	1.21	987,764	1.06
101— 500 ...	26,470	28.11	6,805,471	12.08	14,083,067	15.14
501— 1,000 ...	9,353	9.93	6,564,689	11.67	15,487,498	16.65
1,001— 1,500 ...	3,538	3.76	4,341,877	7.72	9,131,037	9.82
1,501— 2,000 ...	1,557	1.65	2,716,469	4.82	5,624,647	6.05
2,001— 3,000 ...	1,661	1.76	4,079,738	7.25	9,127,192	9.81
3,001— 4,000 ...	778	0.83	2,714,548	4.82	7,632,869	8.21
4,001— 5,000 ...	471	0.50	2,099,469	3.73	4,409,947	4.74
5,001— 7,500 ...	644	0.68	3,899,612	6.93	8,355,858	8.98
7,501—10,000 ...	302	0.32	2,600,686	4.62	2,452,343	2.64
10,001—15,000 ...	283	0.30	3,437,702	6.11	5,023,081	5.40
15,001—20,000 ...	128	0.14	2,240,124	3.98	1,867,627	2.01
20,001—30,000 ...	145	0.15	3,529,366	6.27	3,056,644	3.29
30,001—40,000 ...	54	0.06	1,841,188	3.27	716,275	0.77
40,001—50,000 ...	36	0.04	1,571,557	2.79	1,387,181	1.49
Over 50,000 ...	76	0.08	6,665,023	11.84	1,726,326	1.86
Total ...	94,177	100.00	56,288,979	100.00	93,001,812	100.00

The foregoing figures show that whilst, on the one hand, the holders of estates exceeding 1,000 acres constitute but 10.27 of the total number of occupiers, the land held represents 64.15 per cent. of the total alienated area. It will further be noted that in the case of 76 estates of 50,001 acres and upwards, which represent only 0.08 per cent. of the total number of holdings, the area alienated in that group comprises 11.84 per cent. of the total classified under this heading.

CROWN LANDS.

As already stated, Crown lands are leased either in conjunction with alienated land or as separate holdings. The total area held in conjunction with alienated lands on 30th June, 1916, was 93,001,812 acres, attached to 16,228 holdings, and particulars as to the distribution, cultivation, etc., of this area have been given in connection with the alienated lands. Holdings consisting of Crown lands only, numbered 7,921, representing 25,009,916 acres, of which nearly 61 per cent. was in the Western Plains Division. The following table shows the distribution of these holdings in the different divisions of the State.

Division.	Number of Holdings.	Area Held.	Area Cultivated.
		acres.	acres.
The Coastal Belt ...	1,016	454,105	1,684
The Tableland ...	1,348	1,102,254	4,738
The Western Declivity ...	1,616	1,824,846	68,687
The Central Plains and the Riverina ...	3,018	6,385,091	168,478
The Western Plains ...	923	15,243,620	3,119
New South Wales ...	7,921	25,009,916	246,706

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